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Committee for Fisheries (STECF)

–

Fisheries Dependent Information  
– New FDI (STECF-18-11)

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Abstract

Commission Decision of 25 February 2016 setting up a Scientific, Technical and Economic Committee for Fisheries, C(2016) 1084, OJ C 74, 26.2.2016, p. 4–10. The Commission may consult the group on any matter relating to marine and fisheries biology, fishing gear technology, fisheries economics, fisheries governance, ecosystem effects of fisheries, aquaculture or similar disciplines. The STECF reviewed the report of the EWG on Fisheries-dependent Information during its winter 2018 plenary meeting.

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## **SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF) – FISHERIES DEPENDENT INFORMATION (STECF-18-11)**

### **Request to the STECF**

STECF is requested to review the report of the STECF Expert Working Group meeting, evaluate the findings and make any appropriate comments and recommendations.

### **STECF observations**

The Expert Group met from 10-14 September in Ispra Italy. 25 experts were attending the meeting (3 STECF members), representing expertise from 18 countries, plus 1 observer.

Synthetically, the ToRs of the EWG were the following:

1. Review and document completeness of the data set and feedback from Member States on approaches used and problems encountered in responding to the data call.
2. Test the compatibility between the data collected in the New-FDI database and the data collected in the Mediterranean and Black Sea database.
3. Produce maps of spatial effort and landings by c-squares
4. Provide catches, landings and discards data for exemptions in discard plans

The EWG addressed almost all the Terms of Reference. Here the main observations from STECF, for each ToR, are reported.

#### ***ToR 1: Review and document completeness of the data set and feedback from Member States on approaches used and problems encountered in responding to the data call.***

This ToR was addressed by taking care of three main aspects, namely:

- ✓ Data transmission issues related to the data call:

The vast majority of issues were primarily of technical nature, arising for a variety of reasons. In many cases, they related from different interpretations of what was requested under the data call. Other issues were related to some data missing for some countries or some years.

Other data issues relate to inconsistencies and errors in data, namely: different approaches used to estimate ‘unwanted catch’ (2 data sources: logbooks and surveys); some Member States (MS) did not carry out any estimation of ‘unwanted catch’ for Table A (because they miss a clear interpretation on how to derive it from other FDI data call tables); some cases of wrong geo coding and the use of confidential flag.

STECF observes that most issues and associated explanations are given in the annex 1 of the report (Member States sections on Methodology, Data availability, Coverage, Problems encountered and other comments). Only those issues that could not be explained were included in the Data Transmission Monitoring Tool (DTMT). STECF observes that not all the experts attending the EWG were aware of the causes of the data issues raised from the check on MS data, even for their own MS. In some cases the experts were not very familiar with their respective MS’s data collection system and in most cases it was not easy to have input on DTMT because the objective of the tool was not very clear to experts. The EWG 18-11 decided to leave the decisions on how to populate the DTMT tool to the co-chairs. It was also agreed that only the main issues that prevented the expert group to respond to the requests from DG MARE (ToRs 2, 3 and 4) should be entered

into the DTMT. This is the reason why outstanding issues reported in the DTMT are limited to issues that have affected the ability of the EWG to respond adequately to Items 2 and 4 of the ToRs. STECF considers this was a sensible and pragmatic approach, but notes that this shifts the responsibility on one or two persons (chair/co)chairs to decide upon what comes into the DTMT, and that this approach will also then not cover all transmission failures by all Member States. STECF notes that the existing guidelines on the content and use of the DTMT would benefit from further development.

- ✓ Consistency of data provided in response to the data call with EUROSTAT statistics:

The most notable difference between this FDI data call and the data submitted to Eurostat was observed for Spain. This was due to a data error in submission of FDI Table A (catch) data by Spain. Otherwise, the vast majority of the differences observed in terms of vessel numbers related to MS excluding inactive vessels.

STECF observes that FDI data call letter was not clear about whether data release by MS should include the whole fleet (active and inactive) or just active vessels, and notes that this should be made clearer in future data calls.

- ✓ Establishing common best practices:

The data call includes the following tables on landings and unwanted catches:

Table A: Catch data for all landings, both those from metiers selected for biological sampling and otherwise

Table C: Unwanted catch based on biological data (age based)

Table D: Unwanted catch based on biological data (length based)

Table E: Landings based on biological data (age based)

Table F: Landings based on biological data (length based)

The estimates of different catch fractions by metier in table A were either not provided or, where they were provided by MSs, they were derived using different methods. Additionally, some MS expressed concerns on the exercise of partitioning unwanted catches from table C and D to table A. STECF recognizes the need to provide guidelines to MSs as to how such estimates should be derived for future FDI data calls.

STECF also notes that the definition of the unwanted catches was interpreted differently by MSs.. Some countries included the BMS landings (landings below MCRS) in the total weight of landings while others included BMS in the unwanted catches and others included in both fields. The EWG 18-11 proposed to include all unwanted catch fractions, including landings below MCRS in 'unwanted catch' field. While such an approach is pragmatic, should the FDI database be used as the input data for stock assessments, it would mean that there would be no means of determining the fractions of unwanted catch that were either discarded or landed.

STECF observes that EWG 18-11 was asked to review the methodology developed by JRC to be applied for the partitioning of the age and length profiles for landings and unwanted catch from table C&D to Table A. However, the group did not have the time to review this methodology. STECF also notes that to do this partitioning, all domain names in table A need to match with domain names used in table C and D, which was not the case for this data call. STECF proposes that tables C and D should be uploaded before table A. When uploading table A afterwards, upload checks should be performed that controls that the domain names in table A are already present in tables C and D.

STECF observes that the rationale for marking data records as confidential varied by MS. Some MS considered that none of the data records should be considered confidential, while other MS marked many fields as confidential, although the justifying comments were often uninformative about the confidentiality criteria applied by the individual Member States. Confidential data sets covers less than 5% of the total value of a given data variable in some regions, while in some other regions it can sum up to 100%. STECF observes that for the 2018 FDI data call, the guidelines on which data should be considered confidential were not clear and this needs to be clarified ahead of any future data calls. In the EWG 18-11 report, all data marked as confidential have been omitted from the spatial maps.

Other data issues that need common approach to be solved were mainly related to link between tables, mainly due to checked inconsistencies between tables' domains. STECF observes that discussion on each of these issues and corresponding solutions proposed are elaborated in the EWG report and these proposals can be used to improve the next FDI data call.

***ToR 2: Test the compatibility between the data collected in the New-FDI database and the data collected in the Mediterranean and Black Sea database.***

STECF observes that the purpose this ToR is to investigate whether it would be possible to have in the future a unique and comprehensive transversal database in order to rationalise the DCF data call process. A reduction in the number of tables requested under the Med&BS data call and a reduction in workload for Member States would be possible, if true compatibility between databases can be demonstrated. There are some reasons why the two databases could differ, all these are described in the EWG report. To reply to the ToR, checks on consistency were done on different aspects. STECF observes that the main issues and inconsistencies identified are of a technical nature and mostly relate to coding inconsistencies or to incompatibility in definitions (e.g. for unwanted catch).

STECF observes that among the deliverables of the ongoing MARE/2016/22 project "STrengthening REgional cooperation in the Area of fisheries biological data collection in the Mediterranean and Black Sea (STREAM)", is the development of routines to compile some of the tables (Tables C, D, E, F) required by the FDI Data Call using the Med&BS tables as input, in order to use the same raised length distribution for all the Data Calls, avoiding inconsistencies among the delivered tables. The project is expected to be finalised in 2019, and would thus contribute to facilitating the processes involved in the multiple data calls and improving their consistency.

***ToR 3: Produce maps of spatial effort and landings by c-squares***

STECF observes that in order to reply to ToR 3 maps of spatial effort and landings by c-squares were created, by EWG 18-11, for all the EU regions and Distant waters as well as for some gear categories. All maps were prepared first by checking and cleaning erroneous data records and removing those marked as confidential. STECF observes that the main issue encountered in producing the maps for the main fishing zones and for the macro gear categories is the incorrect allocation of the coordinates to records. Data reported as confidential were omitted from the mapping and when creating the maps for the report every map was checked against outliers. Additionally, some Member States required their data to be omitted in the areas where fishing effort occurred that allowed self-identification of individual vessels.

STECF notes that numerous inconsistencies and errors were identified in the spatial data for landings and effort submitted by Member States that could not be resolved during the EWG meeting (wrong allocation of latitude and longitude, wrong geographic resolution, incorrect unit of

measurement, records with no sub region, records with incorrect gear indication, records with incorrect mesh size indication). In addition, for some fleets and Member States, the data were specified as confidential. In each of these cases the data records were omitted from the spatial plots. Consequently, the spatial plots do not reflect the true spatial extent and magnitude of landings and effort.

#### ***ToR 4: Provide catches, landings and discards data for exemptions in discard plans***

STECF observes that EWG 18-11 was not in the position to fully answer the request in TOR 4 on the basis of data available in the FDI database. In order to calculate the catch associated to a specific exemption, more detailed data would be required than available in the FDI database. For instance, the data call asked for estimates of unwanted catch, which constitute both unwanted catches that were landed and those that were discarded. There was no specific call for discard estimates. Hence discards cannot be estimated using the data provided under the data call.

Therefore, any estimate provided under TOR4 for unwanted catch of species under the landing obligation cannot be interpreted as discards for e.g., control purposes of *de minimis* exemptions. Furthermore providing reliable and robust estimates of catches, i.e. landings and unwanted catch for fleets that are granted exemptions from the landing obligation is problematic: for many of these fleets, estimates are unavailable, because unwanted catch is not sampled, and for those fleets where unwanted catches have been sampled, the achieved sampling coverage is often much lower than required to provide a robust estimate of the true unwanted catch fractions. Alternatively, official logbook information could be used but for most MS and fisheries, the records of unwanted catch fractions (discards + BMS landings) in logbooks are believed to be an unreliable source of information, since the landing obligation is still not fully implemented and major problems with compliance were reported by all experts.

Taking into account these substantial issues EWG 18-11 considered that it would be misleading to estimate the unwanted catch fraction for those catches that were not sampled. Consequently, the unwanted catch estimates given in Table A and for those fleets granted exemptions from the landing obligation were provided only for those fleets for which MS provided sample estimates.

#### ***General observations***

Generally STECF observes that the discussion on the release of some data (e.g. unwanted catches, confidentiality flags) highlighted that the purpose and objectives of the FDI data call and database are still not fully clear, now that there is no more direct management of the fishing effort in place. The EWG requested that DG-MARE and STECF clarify the purpose and objectives of creating and maintaining the new FDI database and in particular which data should be disseminated to the public and how. Indeed, STECF observes that while the EWG 18-11 agreed on the benefits of having a database publicly available, there are still concerns on how the data would be used by third parties, particularly the sampling data (unwanted catches and biological estimates).

#### **STECF conclusions**

STECF concludes that while the EWG addressed all ToRs appropriately, the data as provided by Member States in response to the 2018 FDI data call was deficient in a number of areas meaning that the compiled database is incomplete.

STECF concludes that for future data calls, care is taken to ensure comparability between the data submitted in response to the FDI call and other data sources. For example it needs to be clearly indicated whether the data called for relate to the entire MS fleet (active and inactive vessels) or to active vessels only.

STECF acknowledges that to request data at high levels of aggregation, e.g. unwanted catches, requires validated and tested estimation procedure that respects the sampling design and the samples available in the targeted aggregation level. It is therefore desirable that guidance are provided on how biological sampled estimates (tables C and D) could be partitioned into table A. It is therefore essential that RCGs discuss and agree on how best to tailor their sampling plans to introduce sufficient flexibility at the required levels of aggregation.

The EWG was unable to conduct a thorough review of the methodology developed by the JRC to partition catches (wanted and unwanted) by age and length. The computations to do so are trivial provided that the domain names in Tables C to F match those used in Table A. STECF suggests that two actions are required to ensure that partitioning of catches by age and length is undertaken properly; i) the 'R' script developed by the JRC must be thoroughly reviewed and tested and ii) the upload facility should be modified to ensure that the domain names in all tables are consistent. A possible solution to resolve any inconsistencies in domain names would be to require member states to upload Tables C to F before Table A so that any inconsistencies in domain names in table A can be identified using an upload consistency routine.

STECF concludes that if the FDI database is to be continued, the process should be split into two EWGs, as is e.g. the case with the Annual Economic Report. A dedicated Expert Group meeting should be first convened to check the data provided by MS in response to the FDI data call. Then the data analyses and requests for advice should be performed in a follow-up Expert Group.

STECF concludes that the criteria used by Member State to flag some data as confidential should be clarified. STECF proposes that data marked as confidential are not publicly disseminated when disaggregated to individual Member State level, but could be included in tables where data from all MS are aggregated together. This is consistent with most European national statistical approach and Eurostat. For the case of data provided in 2018 where several data were flagged as confidential, the aggregated dissemination tables should be sent to MS for approval before public release.

To clarify and improve future reporting and evaluation of data transmission issues, STECF suggests that the DTMT itself and the associated guidance document be reviewed (see conclusions to section 4.7 of this report).

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**REPORT TO THE STECF**

**EXPERT WORKING GROUP ON  
Fisheries Dependent Information – “New-FDI”  
(EWG-18-11)**

**Ispra, Italy, 10-14 September 2018**

This report does not necessarily reflect the view of the STECF and the European Commission and in no way anticipates the Commission's future policy in this area

# **1 INTRODUCTION**

The STECF EWG 18-11 met during 10 – 14 September 2018 at Ispra, Italy. The meeting was opened at 9 am on 10 September and was adjourned at 13.00 on 14 September 2018. Working conditions provided were considered good.

## **1.1 Terms of Reference for EWG-18-11**

**DG Mare focal person:** Zsuzsanna Koenig

**Chairs:** Willy Vanhee and Arina Motova

### **Background**

An STECF Expert Working Group on Fisheries Dependent Information will be convened from 10– 14 September 2018 in Ispra, Italy to review the data transmitted by Member States under the 2018 New-FDI data call (Ares(2018) 2607160 - 18/05/2018) to judge:

- i) If data submitted is complete in terms of areas of fishing, types of fleet segment and gear operated and species identified.
- ii) If data submitted is complete in terms of type of data requested: capacity metrics, effort metrics, landings, unwanted catch and spatially disaggregated landings and effort.
- iii) The level of compatibility between the effort data in the FDI database and that submitted to the Mediterranean and Black Sea data call.
- iv) The level of compatibility between the landings data in the FDI database and that submitted to the Mediterranean and Black Sea data call for those species listed in the latter call.

In addition, the EWG is asked to map the data on fishing effort obtained from the call for spatially disaggregated data and to judge whether some or all data provided is sufficiently complete to be disseminated publically.

In considering the completeness of the data submitted the EWG is entitled to use external sources of data where necessary, as well as expert judgement.

One of the motivations behind a comprehensive transversal database was the possibility to rationalise the DCF data call process. The Mediterranean and Black Sea data call requests data for a considerable number of tables specifically aimed at allowing stock assessments but the ‘fisheries’ tables of catch and effort in principle should be directly comparable to those from the FDI. A reduction in the number of tables requested under the Mediterranean and Black Sea data call and reduction in workload for Member States is possible if true compatibility between databases can be demonstrated.

Terms of Reference: see annex

## **Annex – Terms of Reference**

### **1 – Review and document completeness of the data set and feedback from Member States on approaches used and problems encountered in responding to the data call.**

1. As a matter of priority, the EWG is requested to ensure that all unresolved data transmission (DT) issues encountered prior to and during the EWG meeting are reported on line via the Data Transmission Monitoring Tool (DTMT) available at <https://datacollection.jrc.ec.europa.eu/web/dcf/dtmt>. Such issues should be reported in full before the EWG disbands.
2. Report on the level of consistency of data provided in response to the data call with EUROSTAT statistics. For 2015 and 2016 data compare total landings to those found in the EUROSTAT database. Comparison to be made by country, main species caught and by FAO level 3 area, (level 4 for the Baltic and Mediterranean).
3. In the interests of establishing common best practices, identify any aspects to answering to the data call that still need a common approach to be established.
  - a. Review methodology applied to partition data (numbers at length and age) from Tables C-F (aggregations according to sampling programs) to Table A (detailed catch table).
  - b. Agree a common approach to determining if data is the subject of data confidentiality and propose best practice for use of confidential data records. This includes treatment and presentation of data on the data dissemination site.
  - c. Discuss other issues that are relevant to the FDI data call and where possible conclude on a common approach to be used.

### **2 – Test the compatibility between the data collected in the New-FDI database and the data collected in the Mediterranean and Black Sea database.**

1. For data from 2016 and 2017 and FAO area 37, compare
  - a. Metier names used.
  - b. Sums of effort (kWdays-at-sea, GTdays-at-sea, fishing days) at the level of country-year-GSA area-gear type. The comparison is to be made between data held in Table\_G\_EFFORT of the FDI database and the Table D EFFORT of the Mediterranean and Black Sea database (as described in Annex 2, Appendix 2.4 of the Med&BS data call).
  - c. Sums of landings (tonnes) at the level of country-year-GSA area-gear type. The comparison is to be made between data held in Table\_A\_CATCH of the FDI database and the Table A CATCH of the Mediterranean and Black Sea database (as described in Annex 2, Appendix 2.1 of the Med&BS data call). Comparison to be restricted to the species contained in Annex 2, Appendix 1.7 of the Med&BS data call.
  - d. Sums of unwanted catch (tonnes) at the level of country-year-GSA area-gear type. The comparison is to be made between data held in Table\_A\_CATCH of the FDI database and DISCARDS quantities held in the Table A CATCH of the Mediterranean and Black Sea database (as described in Annex 2, Appendix 2.1 of the Med&BS data call). Comparison to be restricted to the species contained in Annex 2, Appendix 1.7 of the Med&BS data call.

- e. Conditional on successful matching of the total landed weight and unwanted catch weight totals, compare numbers at length at the level of country-year-GSA area-gear type. The comparison is to be made between data held in Table\_A\_CATCH of the FDI database and Tables B 'Fisheries landings at length' and Table C 'Fisheries discards at length' of the Mediterranean and Black Sea database (as described in Annex 2, Appendix 2.2 and 2.3 of the Med&BS data call). Comparison to be restricted to the species contained in Annex 2, Appendix 1.7 of the Med&BS data call.

### **3 -- Produce maps of spatial effort and landings by c-squares**

1. Produce maps of effort and landings by c-square for the following regions (as defined in COM-2016-134 for areas other than 'distant waters') and major gear types (as defined in appendix 4 of the data call):
  - a. Baltic; North Sea; North Western Waters; South Western Waters; Mediterranean and Black Sea; Distant waters<sup>1</sup>
  - b. Trawls (except beam trawls) with mesh < 100mm; trawls (except beam trawls) with mesh ≥ 100mm; beam trawls with mesh < 120mm; beam trawls with mesh ≥ 120mm; seine nets; gillnets and entangling nets; dredges; hooks and lines; surrounding nets; pots and traps.
2. Identify areas and fleets where spatial data was not available and propose possible ways forward.

### **4 –Provide catches, landings and discards data for exemptions in discard plans**

STECF is asked to provide figures for catches, landings and discards, at a level of aggregation corresponding to the fleet, area and gear type as specified in each exemption of each of the discard plans.

Where there is insufficient discard data for the above task, the STECF is asked to provide estimated catches (landings + discards<sup>2</sup>).

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<sup>1</sup> Defined here as waters not covered by the previously listed areas.

<sup>2</sup> 'Discards' are defined here as both discards at sea and landings below minimum conservation reference size and therefore relate to the 'unwanted catch' field in the FDI data tables.

## 2 DATA PROVISION AND CHECKS

### 2.1 Data call

The DCF FDI data call 2018 was published on 4 June 2018 with a deadline of 3 July 2018. The data call is fully documented at the JRC DCF web page: <https://datacollection.jrc.ec.europa.eu/data-calls>

The STECF EWG 18-11 notes that the 2018 data call is consistent with the data call issued in 2017 as a trial exercise for the new-FDI.

### 2.2 Data checks on uploads and data evaluations before EWG 18-11 meeting

#### Timeliness and coverage

Most Member States submitted data by the data call legal deadline. A few countries were requested to re-upload part of the data during the EWG 18-11 meeting (see Figure 2.1).

#### **FDI data call 2017: Uploading progress**

The graph shows the number of datasets uploaded over time.

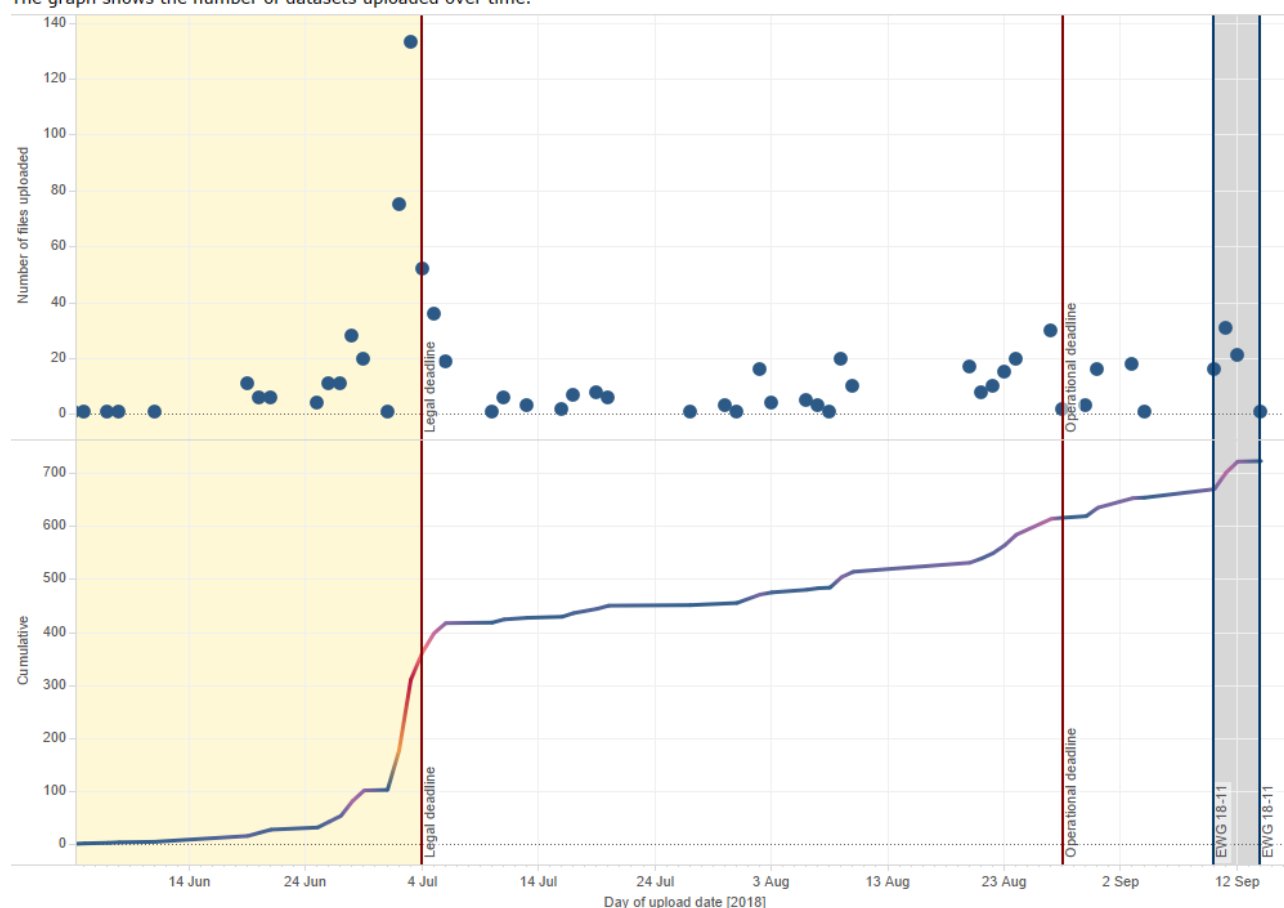


Figure 2.1: Number of datasets (i.e., files CSV) uploaded during the FDI data call.

Greece did not provide data for table C, while Cyprus did not provide data for table H and table I (see Figure 2.2).

The data call requested data sets for 3 years: 2015, 2016 and 2017. For some tables, not all the years were covered by Belgium, Bulgaria, Cyprus, Greece, Italy and Romania.



## FDI data call 2018: Timeliness overview

Upload date broken down by country vs. data set. Legal deadline: 3 July 2018.

Data set	Belgium	Bulgaria	Croatia	Cyprus	Denmark	Estonia	Finland	France	Germany	Greece	Ireland	Italy
TABLE_A_CATCH	02/07/2018	02/07/2018	03/07/2018	03/07/2018	02/07/2018	03/07/2018	19/06/2018	28/06/2018	02/07/2018	03/07/2018	03/07/2018	02/07/2018
TABLE_B_REFUSAL_RATE	02/07/2018	29/06/2018	02/07/2018	26/06/2018	02/07/2018	03/07/2018	21/06/2018	04/07/2018	03/07/2018	03/07/2018	03/07/2018	29/06/2018
TABLE_C_UNWANTED_CATCH_AT_AGE	02/07/2018	02/07/2018	02/07/2018	03/07/2018	03/07/2018	03/07/2018	21/06/2018	28/06/2018	02/07/2018		03/07/2018	02/07/2018
TABLE_D_UNWANTED_CATCH_AT_LENGTH	02/07/2018	02/07/2018	02/07/2018	03/07/2018	03/07/2018	03/07/2018	19/06/2018	29/06/2018	02/07/2018	03/07/2018	03/07/2018	02/07/2018
TABLE_E_LANDINGS_AT_AGE	03/07/2018	21/06/2018	02/07/2018	03/07/2018	03/07/2018	03/07/2018	21/06/2018	28/06/2018	02/07/2018	03/07/2018	03/07/2018	02/07/2018
TABLE_F_LANDINGS_AT_LENGTH	03/07/2018	20/06/2018	02/07/2018	03/07/2018	03/07/2018	03/07/2018	19/06/2018	29/06/2018	02/07/2018	03/07/2018	03/07/2018	02/07/2018
TABLE_G_EFFORT	02/07/2018	02/07/2018	03/07/2018	03/07/2018	02/07/2018	03/07/2018	21/06/2018	28/06/2018	08/06/2018	03/07/2018	03/07/2018	27/06/2018
TABLE_H_SPATIAL_LANDINGS	02/07/2018	02/07/2018	03/07/2018		02/07/2018	03/07/2018	27/06/2018	28/06/2018	02/07/2018	03/07/2018	03/07/2018	29/06/2018
TABLE_I_SPATIAL_EFFORT	02/07/2018	03/07/2018	03/07/2018		02/07/2018	03/07/2018	27/06/2018	28/06/2018	11/06/2018	03/07/2018	03/07/2018	29/06/2018
TABLE_J_CAPACITY	02/07/2018	05/06/2018	02/07/2018	02/07/2018	02/07/2018	03/07/2018	25/06/2018	04/07/2018	04/06/2018	03/07/2018	03/07/2018	27/06/2018

Data set	Latvia	Lithuania	Malta	Netherlands	Poland	Portugal	Romania	Slovenia	Spain	Sweden	United Kingdom
TABLE_A_CATCH	03/07/2018	29/06/2018	03/07/2018	28/06/2018	02/07/2018	04/07/2018	25/06/2018	19/06/2018	02/08/2018	26/06/2018	03/07/2018
TABLE_B_REFUSAL_RATE	02/07/2018	29/06/2018	03/07/2018	05/07/2018	02/07/2018	17/07/2018	02/07/2018	19/06/2018	02/08/2018	02/07/2018	04/07/2018
TABLE_C_UNWANTED_CATCH_AT_AGE	03/07/2018	29/06/2018	03/07/2018	04/07/2018	28/06/2018	17/07/2018	02/07/2018	19/06/2018	02/08/2018	26/06/2018	03/07/2018
TABLE_D_UNWANTED_CATCH_AT_LENGTH	03/07/2018	29/06/2018	03/07/2018	04/07/2018	29/06/2018	17/07/2018	02/07/2018	21/06/2018	02/08/2018	26/06/2018	03/07/2018
TABLE_E_LANDINGS_AT_AGE	03/07/2018	29/06/2018	03/07/2018	04/07/2018	28/06/2018	17/07/2018	02/07/2018	20/06/2018	02/08/2018	26/06/2018	03/07/2018
TABLE_F_LANDINGS_AT_LENGTH	03/07/2018	29/06/2018	03/07/2018	04/07/2018	01/07/2018	17/07/2018	02/07/2018	20/06/2018	02/08/2018	26/06/2018	03/07/2018
TABLE_G_EFFORT	02/07/2018	28/06/2018	03/07/2018	04/07/2018	27/06/2018	03/07/2018	25/06/2018	19/06/2018	19/07/2018	02/07/2018	02/07/2018
TABLE_H_SPATIAL_LANDINGS	02/07/2018	28/06/2018	03/07/2018	04/07/2018	26/06/2018	03/07/2018	26/06/2018	19/06/2018	19/07/2018	29/06/2018	03/07/2018
TABLE_I_SPATIAL_EFFORT	02/07/2018	28/06/2018	03/07/2018	05/07/2018	26/06/2018	03/07/2018	26/06/2018	19/06/2018	19/07/2018	02/07/2018	02/07/2018
TABLE_J_CAPACITY	02/07/2018	28/06/2018	03/07/2018	05/07/2018	26/06/2018	03/07/2018	25/06/2018	19/06/2018	03/07/2018	29/06/2018	04/07/2018

Figure 2.2: Data sets uploaded by Member States during the FDI data call with the date of the first successful upload.

## Checks during the upload of the data

The majority of the checks performed during the upload of the data concerns the use of valid codes referred to the various Annexes to the data call and the type of the data entered (numeric or text).

In particular, the upload tool verified the format of the provided files and checked the codes used to specify the following information: country, gear type, vessel length, mesh size range, metier, target assemblage, fishing technique, species, supra region, sub-region, geo indicator, EEZ indicator, specon tech. In addition, the consistency between sub-region codes and EEZ indicator codes was verified.

## Post-upload data checks

After the upload of the data by Member States, JRC carried out quality checks for:

- consistency between the data submitted and the specification of the data call;
- consistency between the data submitted in the different tables of the FDI data call.

In more detail, the following checks were performed and visualized with Tableau:

- Average length vessels compatibility with the vessel length category (table J).
- Comparison of number of vessels from table J and table G: TOTVES > 0 in table G and TOTVES in table J is non present or NK.
- Identification of non-valid combination of sub-region and EEZ indicator codes.
- Comparison between landings and effort: TOTWGHTLANDG > 0 in table A and effort (TOTFISHDAYS and TOTSEADAYS) not present or NK in table G.
- Comparison between TOTWGHTLANDG and TOTVALLANDG (table A): TOTWGHTLANDG>=0 and TOTVALLANDG=0.
- Comparison of any given metric over the time series (2015-2017): the three values of data were shown as a bar chart; in addition, percentage differences between years were also shown.
- Using the TOTWGHTLANDG and TOTVALLANDG fields from table A, an average price per species and year were calculated and compared to the average price calculated per country.
- Verification that, for each country, all DOMAIN\_DISCARDS names found in Tables C and D are also found in Table A.
- Verification that, for each country, all DOMAIN\_ LANDINGS names found in Tables E and F are also found in Table A.

- Where DOMAIN\_DISCARDS names match between Tables C and D and Table A, the sum of TOTWGHTLANDG values in Table A for the given domain name was checked against the TOTWGHTLANDG value in Tables C and D.
- Where DOMAIN\_LANDINGS names match between Tables E and F and Table A, the sum of TOTWGHTLANDG values in Table A for the given domain name was checked against the TOTWGHTLANDG value in Tables E and F.

Two additional Tableau dashboards were created for Table I and Table H; the dashboards allow to:

- visualise the spatial components of effort and landings;
- visualise through thematic maps the distribution of fishing effort and landings at c-square level;
- visually assess through a map mashup the correct allocation of the c-square coordinates;
- to allow for the swapping of the latitude and longitude values and create a map with the swapped coordinates. In particular, this check was deemed necessary as some of the spatial data submitted were affected by a wrong allocation of geographical coordinates to the records.

Results of the checks were made available to national correspondents (with access credentials that restricted them to seeing information about their own country only) and to EWG 18-11 experts (with access credentials that allowed them to see information about all countries).

#### Cross checks with EUROSTAT data

The purpose of cross checks with an external data source was to check for completeness of submitted data sets. EUROSTAT data files have been downloaded from:

<http://ec.europa.eu/eurostat/web/fisheries/data/database>.

Results of the checks were made available to national correspondents (with access credentials that restricted them to seeing information about their own country only) and the EWG 18-11 experts (with access credentials that allowed them to see information about all countries).

### 3 RESPONSES TO THE TERMS OF REFERENCE

#### 3.1 TOR 1 - Review and document completeness of the data set and feedback from Member States on approaches used and problems encountered in responding to the data call.

3.1.1 *As a matter of priority, the EWG is requested to ensure that all unresolved data transmission (DT) issues encountered prior to and during the EWG meeting are reported on line via the Data Transmission Monitoring Tool (DTMT) available at <https://datacollection.jrc.ec.europa.eu/web/dcf/dtmt>. Such issues should be reported in full before the EWG disbands.*

The Data Transmission Monitoring tool (DTMT: <https://datacollection.jrc.ec.europa.eu/dtmt>) was made available to the EWG to report any issues identified in checking the data transmitted by Member States in response to the data call and that remain unresolved.

The purpose of the DTMT is to identify on a single on-line platform, those data transmission issues that could not be resolved or explained during the expert group so that Member States are aware of such issues and have the opportunity to investigate and comment on why such issues have arisen. It is also important for the Commission to be made aware of any outstanding and unresolved issues so they can be taken into account during the annual evaluation of Member States achievements under the DCF.

#### Process

The DTMT is essentially intended to be a tool for end users of data transmitted in response to DCF data calls i.e. those bodies and or individuals that use the data for the purposes of carrying out scientific research and investigations. The primary task of the current EWG is quite different in that Experts are required to thoroughly check the consistency, completeness and quality of the data that are incorporated into the FDI database, although items 2 and 4 in the Terms of reference (2. provide spatial maps and 4. provide catch fraction estimates for fleets with exemptions under the landing obligation) require such data to be used. However, the utility of the data and hence the ability of the EWG to adequately respond to items 2 and 4 of the Terms of reference, are highly-dependent on the outcome of the data checking process.

The nature of the 2018 FDI data call (detailed, complex and re-specified especially to accommodate requests relating to the Landing obligation - Item 4 of the Terms of Reference) was such that numerous issues of a technical nature were identified in the checking process. Such issues and associated explanations as to why they may have arisen, are given in the Member State chapters in the EWG report (Annex 1). Only those issues that could not be explained are included in the DTMT. The Expert group notes that even when a plausible explanation is given for identified issues, many cannot be resolved because they are simply a feature of the data as collected. In practice, the issues identified are primarily technical issues and in many cases have arisen through alternative interpretations of what was requested under the data call or because different people were involved in data call procedure and simple human error gave rise inconsistencies between tables. In fact, many of them could be adequately explained and in some cases resolved through re-uploading the data. Consequently, the number of outstanding issues reported in the DTMT is limited to issues that have affected the ability of the EWG to respond adequately to Items 2 and 4 of the ToRs. Nevertheless, such issues are also technical in nature and have arisen through misinterpretation and simple human error.

In identifying issues with transmitted data, it is essential that the data are closely scrutinised by those experts that are familiar with the data. Such an approach invariably requires that experts who compile and upload the data from each Member State are intimately involved with checking the data they have been responsible for and for providing plausible explanations why any issues have arisen.

Many of the experts participating in the EWG meeting did not have the opportunity to extensively test the DTMT as most of the time was dedicated to quality checks and countries chapters and most of experts felt uncomfortable to add comments regarding their own countries data submission. Nevertheless the chairs took a decision to provide information on DTMT on issues that hampered answering ToRs of the EWG.

### ***3.1.2 Report on the level of consistency of data provided in response to the data call with EUROSTAT statistics. For 2015 and 2016 data compare total landings to those found in the EUROSTAT database. Comparison to be made by country, main species caught and by FAO level 3 area, (level 4 for the Baltic and Mediterranean).***

#### ***3.1.2.1 Differences in reported landings and vessels between Eurostat and FDI***

The most notable difference between this FDI data call and those data submitted to Eurostat was observed for Spain. Spanish landings reported under the 2018 FDI data call for 2015 and 2016 were more than 1.4 million tonnes greater than those held by Eurostat. This was due to a data error in submission of FDI Table A (catch) data by Spain. Consequently the data currently held in the FDI database for Spain for the years 2015 and 2016 are incorrect and cannot be taken into consideration in any analyses. The Spanish experts report that the Eurostat statistics are accurate. Overall this issue accounts for 92% of the observed gross difference<sup>3</sup> between FDI and Eurostat. The gross differences between FDI and Eurostat stands at 3,235,063 tonnes. The total net difference between Eurostat and FDI was -2,913,346 tonnes over the two years considered, with Eurostat being less than FDI.

Removing the Spanish data from further consideration yields a total gross difference (i.e. irrespective of direction) of 245,233 tonnes (equivalent to 3% of the total landings on FDI in 2015 and 2016) and a net difference of 76,483 tonnes (equivalent to <1% of the total landings on FDI in 2015 and 2016) over 2015 and 2016. In general Eurostat recorded higher landings than this FDI data call (Table 3.1.2.1).

Looking at total number of vessels reveals much more striking differences between Eurostat and FDI (Table 3.1.2.1.1). No issues were reported with the upload of the Spanish capacity data and so they are considered in the comparison between vessel numbers. In general the number of vessels reported is greater on Eurostat than FDI, the total gross difference (2015 – 2017) was 51,644 vessels (~29% of the figures reported in the FDI dataset). The total net difference (2015 – 2017) was 49,748 vessels (~28% of the figures reported in the FDI dataset). The vast majority of the differences observed in terms of vessel numbers related to Member States excluding inactive vessels from the FDI data call when they were included in the Eurostat submission. Another, much less important, driver of the difference is that for Eurostat the fleet is considered on a snapshot date, whereas FDI looks at the total fleet in a whole calendar year. As such we are not comparing like-with-like and some small differences are to be expected. The FDI data call letter was not clear about whether the whole fleet (active and inactive) or just active vessels were required. It is recommended that this is made clear in future data calls so ensure consistency between Member State submissions and to explain any discrepancies between FDI and other publicly available data sources (e.g. Eurostat, Fleet Balance Capacity, Fleet Economics).

The following subsections will examine the differences in reported landings by FAO Area, species and area.

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<sup>3</sup> Net difference is the difference between Eurostat and FDI values, with a + or - sign to indicate the direction of the difference. Gross difference is the difference between Eurostat and FDI without any + or - sign. The benefit of looking at gross difference (i.e. difference irrespective of sign) is that you can total it up and it indicates the magnitude of any inconsistencies between the databases.

Table 3.1.2.1.1 – Gross and Net differences between Eurostat and FDI

Year	2015	2016	2017	Total
Gross Difference Total Weight Landed (inc. Spain)	1,563,148	1,671,915	n/c	3,235,063
Net Difference Total Weight Landed (inc. Spain)	-1,435,070	-1,478,277	n/c	-2,913,346
Gross Difference Total Weight Landed (exc. Spain)	118,609	126,624	n/c	245,233
Net Difference Total Weight Landed (exc. Spain)	9,469	67,014	n/c	76,483
Gross Difference Vessels	19,363	16,711	15,570	51,644
Net Difference Vessels	18,433	16,219	15,096	49,748

Net differences: where Eurostat > FDI the sign is positive, FDI > Eurostat the sign is negative.

### 3.1.2.2 Differences in reported landings by FAO Area between Eurostat and FDI

*Note that this section and succeeding sections follow the precedent set in the previous section and excludes Spanish landings.*

Despite accounting for 85% of the total reported landings in the FDI data call FAO Area 27 (NE Atlantic) is subject to gross differences between Eurostat and FDI equivalent to 2% of total FDI landings. This is a relatively minor difference when compared to some of the other FAO areas considered (Table 3.1.2.2.1 and Table 3.1.2.2.2).

As a proportion of total reported FDI landings the most important differences are concentrated in FAO Areas 34 (East Central Atlantic), 50%, and 37 (Mediterranean and Black Sea), 23%. In both areas the reported landings on FDI are less than those reported to Eurostat. In the case of FAO Area 34 the majority of the difference is driven by differences for Latvia (62,045 tonnes less in FDI) and the Netherlands (59,473 tonnes less in FDI). In both cases issues surrounding supply of distant waters landings were reported, with Latvia withholding data deemed to be sensitive.

In the case of FAO Area 37 the majority of the difference is accounted for by differences for reported landings by Greece (106,190 tonnes less on FDI). This is because Greece supplied no data for FAO Area 37 in either 2016 or 2017 whereas landings were reported for this area to Eurostat in both these years.

Table 3.1.2.2.1 – Net differences between Eurostat and FDI by FAO area

Area	2015	2016	Total	% FDI Total
21	-3,276	-2,335	-5,610	-10%
27	15,122	46,997	62,118	1%
34	30,970	88,634	119,604	44%
37	69,681	49,842	119,523	20%
41	-1,794	30	-1,764	-11%
47	-1,966	-6,535	-8,501	-9%
51	2,573	-12,714	-10,141	-7%

Net differences: where Eurostat > FDI the sign is positive, FDI > Eurostat the sign is negative.

Table 3.1.2.2.2 – Gross differences between Eurostat and FDI by FAO area

Area	2015	2016	Total	% FDI Total
21	3,281	2,337	5,619	10%
27	87,263	52,899	140,162	2%
34	39,844	98,768	138,612	50%
37	71,871	66,750	138,621	23%
41	1,948	343	2,291	15%
47	2,034	7,791	9,824	10%
51	4,141	14,597	18,738	14%

### 3.1.2.3 Differences in reported landings by species between Eurostat and FDI

The top ten species with the largest differences between Eurostat and FDI are given in the table below (Table 3.1.2.3.1) and explain 55% of observed difference at species level. Of these ten, eight are pelagic species. The largest difference was observed for HOM (Atlantic Horse Mackerel). A number of Member States reported that there is internal inconsistency between codification of Horse Mackerel, sometimes using JAX (Jack and Horse Mackerel) sometimes using HOM (Atlantic Horse Mackerel) and variation in this codification between Eurostat and FDI explains some of the difference. A similar issue was reported for Monks and Anglerfishes with MON, MNZ and ANF all being used. Again variations in these codifications between Eurostat and FDI submissions explain some of the differences. France supplied data for LQD (*Laminaria digitata*, an algae species). The total amount reported on Eurostat was much less than for FDI.

The date of data extraction has an impact; compliance driven amendments to sales notes, landing declaration and logbooks between extractions can explain variation between Eurostat and FDI submissions. It is not surprising that the largest differences are observed for pelagic species or algae species as these are landed in high volumes and relatively small changes in their landings data can create large absolute differences in total landings submitted.

Table 3.1.2.3.1 – Gross and Net differences by species for landings between Eurostat and FDI

Species Code	Net difference (tonnes)	Gross difference (tonnes)	% Gross difference
HOM	-27,727	35,535	8%
LQD	-9,338	32,662	7%
HER	17,954	31,582	7%
MAC	27,001	28,576	6%
MNZ	-23,869	24,016	5%
JAA	24,002	24,002	5%
JAX	6,784	23,292	5%

Species Code	Net difference (tonnes)	Gross difference (tonnes)	% Gross difference
<b>PIL</b>	8,041	21,840	5%
<b>WHB</b>	15,814	16,695	4%
<b>YFT</b>	-13,729	14,497	3%

Net differences: where Eurostat > FDI the sign is positive, FDI > Eurostat the sign is negative.

#### 3.1.2.4 Differences in reported landings by Member State between Eurostat and FDI

Excluding Spain from consideration, Latvia had the largest reported gross difference between Eurostat and FDI (Table 3.1.2.4.1), accounting for 30% of the total difference observed. For Latvia the explanation was that confidential data of fishing in FAO Areas outside the Baltic was withheld for the FDI data call but was supplied to Eurostat. The Netherlands had the second largest difference, which like Latvia, related to distant waters fishing being supplied to Eurostat but not for the FDI data call. The third largest difference was for France and was explained by changes in the underlying data between the dates of the data calls. Lithuania, the country with the fourth largest difference, could not explain the magnitude of the difference between Eurostat and FDI but suggests that multi-year trips and differences in the data call methodologies might be responsible. The United Kingdom, the country with the fifth largest differences, explained its differences in terms of the different dates of the data extractions and compliance driven amendments to sales and logbooks affecting reported pelagic landings.

Table 3.1.2.4.1 – Gross differences in landings between Eurostat and FDI by Member State

Member State	2015	2016	Total	% Gross Difference
<b>Belgium</b>	61	79	140	0%
<b>Bulgaria</b>	435	1,658	2,093	1%
<b>Croatia</b>	1,077	895	1,971	1%
<b>Cyprus</b>	8	8,106	8,114	3%
<b>Denmark</b>	4,705	466	5,171	2%
<b>Estonia</b>	86	108	194	0%
<b>Finland</b>	5,259	7,510	12,769	5%
<b>France</b>	20,897	12,106	33,003	13%
<b>Germany</b>	6,600	5,643	12,243	5%
<b>Greece</b>	0	0	0	0%
<b>Ireland</b>	1,471	794	2,266	1%
<b>Italy</b>	158	7,515	7,673	3%
<b>Latvia</b>	18,815	54,313	73,128	30%
<b>Lithuania</b>	13,992	3,986	17,978	7%
<b>Malta</b>	0	114	114	0%
<b>Netherlands</b>	32,606	4,999	37,605	15%
<b>Poland</b>	825	2,282	3,107	1%
<b>Portugal</b>	9,111	182	9,293	4%
<b>Romania</b>	100	498	598	0%
<b>Slovenia</b>	4	6	11	0%
<b>Sweden</b>	215	1,968	2,183	1%
<b>United Kingdom</b>	2,183	13,396	15,580	6%

Table 3.1.2.4.1 – Gross differences in landings between Eurostat and FDI by Member State

Member State	2015	2016	Total
Belgium	-61	-79	-140
Bulgaria	435	1,658	2,093
Croatia	-1,077	-895	-1,971
Cyprus	8	-8,106	-8,098
Denmark	-4,705	-466	-5,171
Estonia	-86	-108	-194
Finland	5,259	7,510	12,769
France	-20,897	-12,106	-33,003
Germany	6,600	-5,643	957
Greece	0	0	0
Ireland	-1,471	794	-677
Italy	-158	7,515	7,358
Latvia	18,815	54,313	73,128
Lithuania	-13,992	3,986	-10,006
Malta	0	-114	-114
Netherlands	32,606	4,999	37,605
Poland	-825	-2,282	-3,107
Portugal	-9,111	182	-8,930
Romania	100	498	598
Slovenia	-4	-6	-11
Sweden	215	1,968	2,183
United Kingdom	-2,183	13,396	11,213

Net differences: where Eurostat > FDI the sign is positive, FDI > Eurostat the sign is negative.

**3.1.3 *In the interests of establishing common best practices, identify any aspects to answering to the data call that still need a common approach to be established.***

**Objectives for the FDI database**

The EW discussed the objective of the new FDI database. While the “Classic FDI” data call and database was designed with a clear objective to support fishing effort regimes evaluations, the purpose and objectives for creating the New FDI are still to be defined. The EW requests that DG-MARE explicitly clarify the purpose and objectives of creating and maintaining the new FDI database and in particular which data and how they should be disseminated to the public. While the group agrees and sees the benefits of having a database publicly available, there are concerns on how the data will be used by third parties, particularly the sampling data (unwanted catches and biological estimates). We emphasise that there is a need to manage expectations of end-users based on the resolution of the sampled data (discards and catch-at-age distributions): to request data at such high levels of aggregation requires an estimation procedure that respects the sampling design and the samples available in the targeted aggregation level. Under most, present sampling designs and sampling efforts currently in place, the quality of the estimates uploaded cannot be assured, at the high level of disaggregation the STECF-FDI data call specifies. This is an extremely important point and needs to be understood by all potential users of the data.

It also needs to be clear and defined what and how data will be available to the public domain. MS should be aware how the data will be presented to the wider public.



The EWG suggests that if the FDI database is indeed required, in future, a dedicated Expert Group meeting needs to be convened simply to check the data provided by Member States in response to the FDI data call. While the EWG recognises that it is the responsibility of Member States to provide checked and validated data, there are issues that will inevitably arise for numerous reasons e.g. misinterpretation of what is being requested, coding misspecification between different databases in Member States and simple human error. Already numerous automatic checks have been implemented during and post-upload. However, there will always be a requirement for expert checks to be undertake. Hence the Terms of Reference for such a dedicated meeting should be restricted to aspects of checking the integrity of the database and should not include any requests for advice. Once the database has been cleared for interrogation, such requests for advice from the STECF can be put to a different Expert Group or to a follow-up to the dedicated data checking EWG. Either way, it is highly desirable that experts with an intimate knowledge of the database participate in such a EWG.

***a) Review methodology applied to partition data (numbers at length and age) from Tables C-F (aggregations according to sampling programs) to Table A (detailed catch table).***

According with EW 17-12 report “...Member States would still be expected to complete an unwanted catch total within the remaining detailed table. They would be free to choose the criteria used to perform the partitioning. **Age profiles and length profiles for landings and unwanted catch by detailed table entry (at the level of métier) would be performed by JRC using profiles from the domain information scaled according to relative landings and relative unwanted catch amounts respectively.** This approach would facilitate the harmonisation of the procedure and reduce the burden on the MS during the data submission.”

**JRC developed a methodology to be applied to Tables C to F, for the partitioning of the age and length profiles for landings and unwanted catch to Table A. However, the group did not have the resources to review the methodology applied by JRC. Therefore, it is desirable that the methodology as implemented is checked thoroughly before these data are publicly disseminated.**

**Methods used for partitioning of estimated Unwanted catches into Table A**

The length and age distributions for landings (Tables E and F) and unwanted catches (Tables C and D) are scientific estimations carried out at National level, based on the data collected under the Data Collection Framework. The unwanted catches estimations are then partitioned across the categories in Table A, by each MS. Each MS used different methodologies for partitioning the unwanted catches across categories (Table 3.1.3.1), while other MS submitted “Official unwanted catches” (i.e. Discards and BMS landings from official sources (e.g. logbooks, sales notes). Some MS did not submit unwanted catches to Table A, due to the lack of clarity of data call, or inability to link the domains between tables. The EW agreed that the data-call should be more detailed and informative, to improve the clarity and modifications are suggested in Annex 2.

**Table 3.1.3.1. Summary table with how MS partition unwanted catches to Table A**

Country	Method
<b>Belgium</b>	The discard rate estimated at each DOMAIN_DISCARDS was applied to the landings, by species, across selected strata within that domain.
<b>Bulgaria</b>	Only official unwanted catches were provided in Table A (only zeros provided).
<b>Croatia</b>	Only official unwanted catches were provided in Table A.
<b>Denmark</b>	Partitioning of unwanted catches was proportionally to the landings, by species, at each stratum, within a domain_discards.

Country	Method
<b>Estonia</b>	Only official unwanted catches were provided in Table A.
<b>France</b>	No unwanted catches provided in Table A Validated, scientifically approved unwanted catches estimates have been provided in tables C&D.
<b>Germany</b>	Partitioning of unwanted catches was proportionally to the landings at each stratum, by species, within a domain_discards.
<b>Greece</b>	No information provided
<b>Italy</b>	No unwanted catches provided in Table A because methods for partitioning of unwanted catches (for instance proportionally to the landings at each stratum) are considered not appropriate and may lead to unreliable results
<b>Ireland</b>	The discard rate (kg/h) were applied across selected strata (vessel_length; mesh, fishery; specon) based on the effort (fishing hours) in each of these strata.
<b>Latvia</b>	Partitioning of unwanted catches was proportionally to the landings at each stratum, by species, within a domain_discards.
<b>Lithuania</b>	Partitioning of unwanted catches was proportionally to the landings at each stratum, by species, within a domain_discards
<b>Poland</b>	Partitioning of unwanted catches was proportionally to the landings at each stratum, by species, within a domain_discards.
<b>Portugal</b>	Data provided for 'Unwanted Catch' in table A corresponds to values filled in on Logbooks by the vessel's master. It's not possible to identify BMS once there is no distinction of the discard's reason.
<b>The Netherlands</b>	Partitioning of unwanted catches was proportionally to the landings at each stratum, by species, within a domain_discards.
<b>UK - Scotland</b>	Partitioning of unwanted catches was proportionally to the landings at each stratum, by species, within a domain_discards.
<b>UK – England and Wales</b>	Partitioning of unwanted catches was proportionally to the landings at each strata, by species, within a domain_discards. .When no landings are reported, proportion of the days at sea at each stratum, within a domain.
<b>Spain</b>	Issues with data provided. Data under revision and will be re-submitted.
<b>Sweden</b>	Partitioning done proportionally to the variable used for the raising (i.e. landings of target species in the fishery or fishing hours, depending on the fishery). Proportion of landings of the same species was not used for the partitioning of unwanted catch unless the species was a target species.

### Issues identified and suggested solutions.

1. According with STECF Expert Working Group 17-12, MS are free to choose the criteria used to perform the partitioning. However, due to lack of clarification in data call, some countries were not able to perform the partition of unwanted catches from Tables C and D to Table A, while others used only official unwanted catches and others used a combination of official and scientific estimates. **It was agreed in the group that the unwanted catches should be only scientific estimates (based on expert knowledge).**
2. Definition of the unwanted catches also presented discrepancies among countries. Some countries included the BMS landings (landings below MCRS) in the TOTWGHTLANDG, others included BMS in the UNWANTED\_CATCH, while others included in both fields (TOTWGHTLANDG and UNWANTED\_CATCH). **The EWG 18-11 proposes to include all discard catch fractions, including landings below MCRS in 'unwanted catch' field.**

**However, this aggregation of unwanted catches will have implications in estimating the exemptions for LO.**

3. The group emphasised the risks for bias in the partitioning of sampling data from domain aggregation to the level of disaggregation required in Table A. Because of the limited number of samples and the very high variability of the variables, the estimates often need to be calculated at a higher aggregation level than the detailed disaggregation level asked for in the New-FDI tables A. Calculating estimates from sampled data for the Table A categories may be impossible (no data points) or estimates will likely not be statistically sound and may be biased.

Member States sections on Methodology, Data availability, Coverage, Problems encountered and other comments are listed in Annex 1.

- b) **Agree a common approach to determining if data is the subject of data confidentiality and propose best practice for use of confidential data records. This includes treatment and presentation of data on the data dissemination site.***

The FDI data call requests data at a detailed level, therefore a field has been introduced in some of the tables that makes it possible to mark data as confidential. In the report on the STECF Expert Working Group 17-12 Fisheries Dependent Information: ‘New-FDI’ 2017 the following was stated regarding confidentiality:

*“With respect to confidentiality, the recast DCF Regulation states “it is necessary to ensure the availability in a timely manner of the relevant data and respective methodologies to bodies with a research or management interest in the scientific analysis of data in the fisheries sector and to any interested parties, except in circumstances where protection and confidentiality are required under applicable Union law.” Whilst some Member States are happy to provide very detailed data provided individual vessels aren’t directly identifiable, this may cause issues for others where their own national rules and regulations may apply.*

*It was agreed by the EWG that the utility of the data would be reduced if Member States themselves treated data for confidentiality and this would be best done centrally by JRC before release of any outputs. This would mirror the approach adopted by Eurostat where Member States are not allowed to withhold data by reason of it being confidential but must flag confidential records to allow appropriate data treatment to be carried out. It was therefore proposed that a field is introduced to Tables A, G, H and I allowing potential data confidentiality to be flagged.”*

In the Frequently Asked Questions related to the FDI data call it is suggested that the issue of confidentiality is subject to interpretation but it is useful to consider the approach of Eurostat. In general, Eurostat will consider data confidential if it is from 1 or 2 companies (this may be extended to 3 companies if one company is dominant). In the case of the FDI tables one can replace company by vessel. For Tables A, G, H and I, it would be very difficult to identify an individual vessel activity as soon as more than one vessel contributing to the data of a given row is marked as confidential.

In the 2018 FDI data call, 7 countries have marked data as confidential in table A. In some cases, it is marked as confidential if a few vessels have a different fishing pattern to the majority of the MS fleet, e.g. long-distance fisheries. In other cases, MS have applied a general rule, marking data as confidential if there is less than e.g. two or three vessels within the aggregation.

When answering the FDI data call, it is up to the Member State to define which data are marked as confidential in tables A (catch data), F (effort data), H (landings by rectangle) and I (effort by rectangle).

**Table 3.1.3.2 Summarising data confidentiality comments by individual Member States for the 2018 FDI data call. Countries with rows marked with orange have submitted data marked as confidential.**

Country	Comment
Belgium	Data were marked as confidential if the data could be reassigned to one vessel.
Bulgaria	The data provided in this data call is not considered as confidential. The value of the sales is calculated as the landings are multiplied by the average price per species from the sales notes for the whole fleet.
Denmark	One vessel has been marked as confidential, as this is the only Danish vessel fishing in some SUB_REGIONs. The data that has been marked as “Confidential” should not be made publicly available unless aggregated together with other countries data.
Croatia	No apparent confidentiality issues.
Estonia	All provided during the FDI data call information is regarded as not confidential.
France	So far, data have not been highlighted as being confidential because a common approach is missing. However, there are many issues related to these data where certain lines hold information for less than 3 vessels. Before any data are published (e.g. in dissemination tools), a further check is needed to identify issues based on a common agreed approach in line with European law. In addition, often not all variables are regarded as being problematic. For example, information on the value of landings or unwanted catch is more sensitive than landings. Options are missing to define in more detail what is confidential and what not.
Germany	<p>Germany has so far not highlighted data as being confidential because a common approach is missing. However, there are many issues related to these data where certain lines hold information for less than 3 vessels. Before any data are published e.g., in dissemination tools, a further check is needed to identify issues based on a common agreed approach in line with European law. In addition, often not all variables in a certain line are regarded as being problematic. For example, information on the value of landings or unwanted catch is more sensitive than landings. Options are missing to define in more detail what is confidential and what not.</p> <p><i>How to define confidentiality was unclear. A common approach to identify confidentiality based on EU law needs to be developed. In addition, so far only a full line can be highlighted as being confidential while maybe only certain columns are confidential while others are not.</i></p>
Ireland	Ireland considers that any aggregated operation that contains less than three vessels should be marked as confidential.
Italy	<p><i>Table H (Landings data by rectangle for 2015 and 2016 in tonnes) and Table I (Specific effort data by rectangle for 2015 and 2016 in units of fishing days)</i></p> <p>It is important to notice that only a subset of the whole Italian Logbook dataset for years 2016-2017 was used. In particular, only the Fishing Activity Reports (FAR) that passed a preliminary quality check were used. This preliminary quality check was aimed to exclude records with missing or unrealistic data in critical fields (e.g. spatial and temporal coordinates, species in the catch or related quantities). Thus, the obtained output should be considered as preliminary and the related analyses should be evaluated as a pilot exercise. Accordingly, the maps obtained during the EWG should be used only for</p>

Country	Comment
	methodological considerations and should not disseminated since they do not represent a sound assessment of the real fishing footprint.
Latvia	Due to confidentiality information about distant fleet were not provided. Data were calculated and provided in the same way as for economic data call. Comparison with Eurostat data showed big difference in landings because due to confidentiality information on distant fleet landings were not provided. As information about recreational fishery was not provided, there are small differences in landings values for fresh water species between the two datasets. All data were provided as not confidential.
Lithuania	Data that considered subject to confidentiality and were flagged in "CONFIDENTIAL" column allows statistical unit vessel to be identified, either directly or indirectly, thereby disclosing individual information. The confidential data can be used for EWG ToRs purposes. Aggregated and/or published data should be on the level, which does not allow any identification of the statistical unit.
Malta	No description
Netherlands	Because aggregation levels are high, data were not marked as confidential. Therefore, for the submission of FDI data in 2018 no data was considered confidential in the Dutch data set.
Poland	In the period 2015-2017 Poland had 3-5 vessels fishing outside the Baltic Sea. Due to the national statistical law it was decided to mark the data about their activity as confidential to avoid the risk of identifying single vessel.
Portugal	The confidential flag was used with the intention to reflect the MS approval in providing detailed data and to allow the data handling within the EWG members and JRC. In 2018 data call, the letter was not explicit about the aim to disseminate data at a MS level or even in such a disaggregated level as C-square. Once the Portuguese fleet operates in FAO areas with a low number of vessels, MS should review the methodologies to assure the confidentiality of the sector operations, that reflects the business intelligence of each operator/owner/master. Concerning the actual FDI report and having in mind that only presents aggregated EU data, it was requested JRC to perform all the geographical information removing the Portuguese entries with less than 3 vessels.
Spain	Addressing the issue of confidentiality, special attention should be paid to those cases where it is not possible to guarantee the anonymity of vessels ( <i>e.g.</i> , those operating in distant waters).
Sweden	For the submission of FDI data in 2018 no data was considered confidential in the Swedish data set. It was however unclear how confidentiality should be applied and this might be revised in future data submissions.
UK	The UK has not flagged any data in this call as confidential. We continue to monitor the content of data calls and will ensure any confidential data is flagged if requested in future data calls.

The comments set out in the table above are in many cases general or not informative about the criteria applied by individual Member States. To improve transparency to end users it would be useful if Member States will supply more specific information about the criteria governing their identification of confidential data (i.e. exact reference of national legislation, European policy or institute policy). This will allow individual Member States to apply their own statistical and data protection processes while ensuring that end users can understand differences in approach by Member States. The

regulations in some MS are more restrictive than others. Applying the most restrictive policy of this group of MS to all for the FDI data call will lead to an unnecessarily restrictive process and will significantly reduce the public benefit of this data set to end users. In developing this approach the EWG is mindful of balancing the legitimate requirements to protect data subjects confidentiality against the public benefit of disseminating this important dataset.

**Table 3.1.3.3 showing number of confidential and non-confidential variables for FDI 2018 data (all Member States total)**

Variables		2015	Confidential data percentage in 2015	2016	Confidential data percentage in 2016	2017	Confidential data percentage in 2017	Confidential data percentage in 2015-2017
Days at Sea	Not confidential	4,706,600	0.44	6,108,985	0.37	3,849,569	0.56	0.44
	Confidential	20,743		22,817		21,503		
kWt*Days at Sea	Not confidential	605,153,298	3.49	718,039,021	3.43	696,533,505	2.96	3.29
	Confidential	21,901,397		25,477,735		21,267,879		
Gt*Days at Sea	Not confidential	2,820,335,234	0.62	2,875,418,013	0.72	2,945,656,093	0.59	0.65
	Confidential	17,703,883		20,901,096		17,534,702		
Fishing days	Not confidential	4,393,622	0.40	5,923,183	0.33	3,767,338	0.47	0.39
	Confidential	17,519		19,404		17,806		
kWt*Fishing days	Not confidential	548,724,825	2.97	669,256,582	3.01	627,281,154	2.59	2.86
	Confidential	16,797,109		20,737,410		16,708,539		
Gt*Fishing days	Not confidential	2,320,665,529	0.57	2,404,858,579	0.70	2,465,667,782	0.55	0.61
	Confidential	13,303,054		17,038,413		13,733,195		
Hours at sea	Not confidential	32,635,937	0.86	33,503,153	1.01	32,242,450	0.96	0.94
	Confidential	283,977		341,323		312,419		
kWt*Hours at sea	Not confidential	9,574,536,745	4.18	9,565,800,796	5.16	9,171,379,670	4.42	4.59
	Confidential	417,232,899		520,750,213		424,448,296		
Gt*Hours at sea	Not confidential	53,611,745,086	0.68	54,599,553,862	0.85	56,412,327,151	0.68	0.73
	Confidential	366,960,742		465,723,887		384,263,039		
Landings in tonnes	Not confidential	6,356,594	2.43	6,266,702	2.82	355,758,842	0.05	0.14
	Confidential	158,264		181,797		176,328		
Value of the landings	Not confidential	9,433,024,901	1.08	11,372,119,033	1.14	11,931,526,230	1.02	1.08
	Confidential	102,880,682		130,601,158		122,489,845		
Unwanted catch	Not confidential	255,116	0.09	247,280	0.03	58,703,792	0.0002	0.0007
	Confidential	228		77		114		

The EWG considered the percentage of data marked as confidential by Member States in the FDI data call. All landings and value data for 2015, 2016 and 2017 was examined. This allowed identification of several sub-regions with insignificant catches where volumes or values were confidential and data exceeded 50 percent as presented in Table 3.1.3.4. For the other thirty-seven sub-regions, the percentage range of confidential data fluctuates from 0.01 to 20 percent of landings or value in total per sub region in certain or all years. Attention is drawn to the fact that in a few regions the percentage range of confidential data reached 20 to 41 in the one of the years.

**Table 3.1.3.4. Areas where confidential data exceed 50 percent of total by landings and/or values**

Area	Variable	Confidential data percentage			
		2015	2016	2017	2015-2017 mean
47.1	Landings in tonnes	52.9	32.9	41.8	44.2
	Value of the landings	11.9	1.8	no data	5.6
87.3	Landings in tonnes	100.0	100.0	100.0	100.0
	Value of the landings	99.9	0.0	100.0	100.0
21.1A	Landings in tonnes	100.0	100.0	100.0	100.0
	Value of the landings	100.0	100.0	100.0	100.0
21.1B	Landings in tonnes	100.0	100.0	100.0	100.0
	Value of the landings	100.0	100.0	100.0	100.0
21.1D	Landings in tonnes	no data	39.4	100.0	40.7
	Value of the landings	no data	48.0	100.0	49.8
21.1E	Landings in tonnes	no data	100.0	no data	100.0
	Value of the landings	no data	100.0	no data	100.0
34.1.3	Landings in tonnes	54.2	65.6	35.1	51.7
	Value of the landings	39.5	42.9	22.9	34.0

The data submitted for the FDI data call are used during the FDI meeting and reporting as well as advice for the Commission and for public dissemination via the Data dissemination tool.

For the 2018 FDI data call, the guidelines on how confidential data should be treated were not clear. Therefore the approach in 2018 is to exclude data marked as confidential, and in the case of producing maps for ToR 3, data from incorrectly coded c-squares have been removed.

It is suggested in the future to follow the guidelines used by Eurostat meaning that at EU level summarized values can be given at a given aggregation level across all countries. Confidential data will only be included in the summarized values if there are more than two counties contributing to the value within the aggregation level, and that one country is not dominant in contributing to the value.

### **Data dissemination tool**

The EWG proposes that data marked as confidential are not publicly disseminated when disaggregated to individual Member State level. It would be appropriate to publicly disseminate these data when data from all MS are aggregated together, provided that when aggregated there are two or more Member States involved or three or more if one Member State is dominant (>50% records/landings/effort etc.). This is consistent with the Eurostat guidelines.

**With regard to the 2018 FDI data call the data to be publicly disseminated should be sent to MS for approval before publishing. When disseminating these data a clear description of how data confidentiality has been handled should be provided to end users to ensure appropriate usage.**

It is suggested that only if all MS are included in the aggregation, data marked as confidential will be displayed, provided that no one country is dominant or alone in the specific record concerned. When disaggregate to individual Member State level only data not marked as confidential should be displayed. The majority of the confidential data affect fishing activity outside of FAO Area 27. As such, the EWG proposes that spatially disaggregated data (e.g. ICES Statistical Rectangle) can be made public on a aggregated and individual Member State level in Area 27, so long as the rules given above (2/3 or more MS involved) are respected for each rectangle. For areas outside of Area 27 the EWG proposes that the no spatially disaggregated information is publicly disseminated for 2018.

A note will be applied in the data dissemination tool that confidential data have been excluded when it is not the aggregation level with all countries. For future data calls the EWG requests that all MS review their data protection and statistical regulations governing the public dissemination of fisheries data and provide a concise account of what these entail and how they are applied to the FDI data call.

**If publicly-available data tables are needed, the formats below are suggested:**

Effort (provide aggregates to comply with rules above when necessary):

- Year
- Area (from data call), (filter)
- Country (filter).
- Gear (from data call)
- Mesh size range
- Vessel length (filter)
- Specon (filter)
- Effort variables
  - o Days at sea
  - o Kw days at sea
  - o GT days at sea
  - o Fishing days
  - o Kw fishing days
  - o GT fishing days
  - o Hours at sea
  - o Kw hours at sea
  - o GT hours at sea

Landings and unwanted catches (provide aggregates to comply with rules above when necessary):

- Year
- Area (from data call), (filter)
- Country (filter).
- Gear (from data call), (filter)
- Mesh size range
- Vessel length (filter)
- Specon (filter)
- Variables
  - o Landings
  - o Unwanted catches (with no fill-ins)

Effort by square. Not in 2018 due to many issues. (exclude areas outside 27):

- Year
- Gear group
- Fishing zone
- Country (filter).
- Vessel length (filter)
- Specon (filter)
- Square
- Variables
  - o Fishing days

Landings by square. Not in 2018 due to many issues. (exclude areas outside 27):



- Year
- Area (from data call), (filter)
- Country (filter).
- Gear (from data call), (filter)
- Vessel length (filter)
- Specon (filter)
- Square
- Variables
  - o Landings

c) Discuss other issues that are relevant to the FDI data call and where possible conclude on a common approach to be used.

## Overview of the issues

The EWG noted that several issues arose in responding the 2018 FDI data call. These are described in detail in the Member State chapters (see Annex 1). Although problems arose that were specific to each MS, it is possible to identify some issues common to all MS. The main issues relate to the reporting of the unwanted catches in Table A; inconsistencies in domain definitions and hence how to link Tables C-F to Table A; how to deal with zero landings.

## Domain definition

The domain field is designed to describe the level of stratification of a Member States (MS) sampling plan. Therefore, a domain name describes the level at which a MS is comfortable to raise their samples in a robust and scientific manner. The current structure of the domain name provides a format that is flexible to the MS requirements. When a domain name is constructed correctly it ensures that MS-specific raising procedures are adhered to. It is likely that domain name will be MS specific, as aggregation practices are set at the level of MS-specific sampling plans. The structure of the domain name is described in appendix 7 of the data call, it is important to note that there are currently no checks on the structure of what occurs between the underscores:

Countrycode(s)\_quarter(s)\_subregion(s)\_geartype(s)\_targetassemblage(s)\_meshsizerange\_selectivedevice(s)\_meshrangeofselectivedevice\_vessellength(s)\_species\_commercialcategory

Some examples of variation in name domain structure can be found below (Table 1). It is essential that the domain name is first classified in the biological sample tables (C, D, E, F), after which the MS can apply their specific domain structure in table A, thus enabling a link between the biological sample tables (C, D, E, F) and the overall catch table (A). This working group suggests that new data checks be implemented by the JRC, ensuring that domain names identified in the biological sample tables (C, D, E, F) appear in catch table (A).

Examples of variation in domain definition submitted to this years (2018) FDI data call.

IRL_1_27.2.A_OTB_SPF_all_NA_NA_all_HER_NA
FRA_1_VII_OTB_DEF_NA_NA_NA_all_BSS_NA
CYP_ALL_GSA25_OTB_DEF_50D100_NA_NA_ALL_VL2440_NA

**Report zero landings**

Through the discussions with the group it was found that Member States dealt with zero landings differently. For Table A, some countries provided unwanted catches where no landings were recorded (zero landings), while others only provided unwanted catches where there were landings records. The main difficulty to provide unwanted catches where no landings were recorded was due to the difficulty to carry out the partition across all the categories in Table A, because the aggregation level of the estimation methods does not allow to be easily partitioned in Table A.

The group recommends that zero landings with unwanted catches should be reported in Table A, using Table G (effort) to perform the partition of unwanted catches, across all the categories.

**Other issues**

- Some MS reported it was not possible to upload any data related to foot-fishing or diving. The main issue relates to the need for new fishing gears to be allowed.
- For the OFR supra region, some MS were not able to allocate a sub-region and those records had to be uploaded as sub-region NK, as the data checks did not allow entering Region (e.g. 51). It is suggested that new data checks will be implemented by the JRC to allow the inclusion of Region when the Supra Region is OFR.

**Clarification of data call**

A Working Document with suggested revisions to data call descriptions is provided in Annex 2.

### **3.2 TOR 2 - Test the compatibility between the data collected in the New-FDI database and the data collected in the Mediterranean and Black Sea database**

One of the motivations behind a comprehensive transversal database was the possibility to rationalise the DCF data call process.<sup>4</sup> The Mediterranean and Black Sea (Med&BS) data call requests data for a considerable number of tables specifically aimed at allowing stock assessments but the ‘fisheries’ tables of catch and effort in principle should be directly comparable to those from the FDI. A reduction in the number of tables requested under the Med&BS data call and reduction in workload for Member States is possible, if true compatibility between databases can be demonstrated.

Assessing the compatibility between the two databases was the objective dedicated to the ToR2 (*test the compatibility between the data collected in the New-FDI database and the data collected in the Mediterranean and Black Sea database*) of the STECF expert working group 18-11.

Same fisheries data (*fishing effort (days at sea and fishing days), total weight of landings by species*) and biological estimates (*unwanted catch, length and age distributions*) are requested in the two data calls. Objectively, there is no core reason that these data should differ between them.

Hereafter some of the reasons why the two databases could differ are described:

- Differences in time and completion status of available data when the estimates were provided. Such difference have been restricted due to the fact that the two data calls have been requested simultaneously this year,
- Data quality issues: data submitted to the New-FDI and MED&BS databases may have been submitted by different people and/or different institutes with different interpretation of the estimates asked and/or of the methodology which has to be used to calculate and compile them,
- Difference in term of data coverage (eg list of species in Med&BS vs all the species in FDInew)
- The two different levels of disaggregation required may lead to different estimates, as they will be not calculated at the same level of aggregation (see below),
- Discards versus Unwanted catch definition; The unwanted catch in the FDI data call is defined as “estimated unwanted catch - of any type including landings below MCRS (minimum conservation reference size)”, while in the Med&BS data call only the discards are reported.

In order to evaluate if the two databases were compatible, the EWG was requested to compare (a) “Sums of effort (kWdays-at-sea, GTdays-at-sea, fishing days)”, (b) “Sums of landings (tonnes)”, (c) “Sums of unwanted catch (tonnes)” and (d) numbers at length for both landings and discards at the

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<sup>4</sup> In a similar way, the STECF Expert Working Group 17-12 Fisheries Dependent Information “New-FDI” tested the compatibility between the data collected in the New-FDI database and the data found in the Fleet Economic Performance database. The group concluded that “*there were no structural problems in linking the two datasets, therefore providing the possibility to undertake bio-economic modelling using these datasets*”. Comparison of the same variables (*the transversal variables, i.e. fishing effort and total weight and value of landings by species, and the capacity variables, i.e. fleet segments*) have been done during the group. However, mainly because some data quality issues, complete homogeneity between the two databases have not be concluded and there has been no final agreement regarding the possibility to switch between the two databases as some more work were needed.

The ToR of this year do not included this topic again as there is another ToR (ToR2) about the compatibility between the FDInew and the Mediterranean and Black Sea data call. The group enhanced nevertheless the need to continue the work on the compatibility between FDInew and FleetEco data call in order to follow the global objective to have a comprehensive transversal database, which cover all the needs today cover by the three JRC regular data calls.

level of ‘country-year-GSA area-gear type’. Comparison was restricted to the species contained in Annex 2, Appendix 1.7 of the Med&BS data call.

Step 1 is to link the two databases on the same frame of reference keeping in mind that the list of reference of code between the two data calls and the data coverage asked (*e.g. list of species in Med&BS vs all the species in FDInew*) could differ. In order to facilitate this link, list of reference of code have been compared between the two data calls for each of the field. This has also enabled the group to evaluate the compatibility in terms of level of disaggregation asked in the two databases.

The FDInew data call ask the fisheries data (*fishing effort (days at sea and fishing days), total weight of landings by species*) at a very detailed disaggregation level. From this very detailed level, it is mainly possible to calculate the same fisheries data at the same level of disaggregation asked in the Med&BS data call (*country-year-quarter-gear-mesh size range-fishery*).

On another note, validated, scientifically approved biological estimates (unwanted catch, length and age distributions) are provided by domain in the FDI data call (tables C, D, E & F). The domain field is designed to describe the level of stratification of a Member States (MS) sampling plan. Therefore, a domain name describes the level at which a MS is comfortable to raise their samples in a robust and scientific manner and is defined as the following:

Countrycode(s)\_quarter(s)\_subregion(s)\_geartype(s)\_targetassemblage(s)\_meshsizerange\_selectivedevice(s)\_meshrangeofselectivedevice\_vessellength(s)\_species\_commercialcategory

From the domain, it may or may not be feasible to calculate directly biological estimates at the level asked in the Med&BS data call, which is necessary for the Med&BS stock assessments. However, domain is also provided in the very detailed table (table A) dealing with the fisheries data in order to link them with the biological estimates. From then it could be theoretically (using some assumptions) feasible to recalculate the biological estimates at the level asked in the Med&BS data call, in order to ensure a true compatibility between the two databases.

### 3.2.1 Comparison of the list of reference of code

Comparison of the list of reference of code and compatibility between them is presented hereafter field by field for those asked in the two data calls (fields asked in only one data call could not be compared, for example, Med&BS data call don’t ask for ‘*fishing technique*’ while ‘*gear type*’ is asked in both data calls).

#### 3.2.1.1 Country coding

Country coding are asked in the two data calls in 3-letter code.

Differences in 3-letter code list of references have been observed for Bulgaria and Romania.

FDInew Appendix 1	Med&BS Appendix 1.1
BGR Bulgaria	BUL Bulgaria
ROU Romania	ROM Romania

This is minor issues which could be easily fixed and which don’t questioned the compatibility between the two data calls. Nevertheless it should be keep in mind when data coming from the two databases are compared and, after all, such differences make it unnecessarily more difficult to link the two databases.

### 3.2.1.2 Vessel length class coding

Same vessel length class coding are asked in the two data calls (*FDInew Appendix 2 and Med&BS Appendix 1.2*).

However, in Med&BS data call it is allowed to submit data without vessel length (“-1”), when such possibility is not given in FDInew. As a consequence, difference of data coverage between the two data calls could result. To guarantee true compatibility between the data calls, it should be ensured that all the MS fishing data could be assigned to a vessel length class and therefore that the code “-1” is not anymore useful for vessel length class coding.

### 3.2.1.3 Gear type coding

‘Gear type coding’ asked in FDInew data call (*Appendix 4*) conform with the ‘Gear Fishing Techniques’ asked in Med&BS data call (*Appendix 1.3*).

‘Fishing technique coding’ asked in FDInew data call (*Appendix 3*) conforms with the fleet segmentation of the vessels (*typological classification of vessels by fleet, one vessel belongs to only one fleet segment each year, although it could use more than one gears during the year*) and should strictly not be compared with ‘Gear Fishing Techniques’ asked in Med&BS data call. Such information (*fleet segment*) is not asked in the Med&BS data call.

The group compared the gear type coding asked in the two data calls and summarized that among the 30 gear codes used, 25 of them were absolutely identical in the both reports.

FDInew Appendix 4	
Boat dredges	DRB
Stationary uncovered pound nets	FPN
Pots and Traps	FPO
Fyke nets	FYK
Driftnets	GND
Set gillnets (anchored)	GNS
Trammel nets	GTR
Lampara nets	LA
Handlines and pole-lines (mechanised)	LHM
Handlines and pole-lines (hand-operated)	LHP
Drifting longlines	LLD
Set longlines	LLS
Bottom otter trawl	OTB
Midwater otter trawl	OTM
Otter twin trawl	OTT
Purse seines	PS
Bottom pair trawl	PTB
Pelagic pair trawl	PTM
Beach seines	SB
Danish seines (Anchored seine)	SDN

Med&BS Appendix 1.3	
Boat dredge	DRB
Stationary uncovered pound nets	FPN
Pots and Traps	FPO
Fyke nets	FYK
Driftnet	GND
Set gillnet	GNS
Trammel net	GTR
Lampara nets	LA
Hand lines	LHM
Pole lines	LHP
Drifting longlines	LLD
Set longlines	LLS
Bottom otter trawl	OTB
Midwater otter trawl	OTM
Multi-rig otter trawl	OTT
Purse seine	PS
Bottom pair trawl	PTB
Midwater pair trawl	PTM
Beach seine	SB
Anchored seine	SDN

FDInew Appendix 4	
Pair seines	SPR
Scottish seines (Fly shooting seine)	SSC
Boat seines	SV
Beam trawl	TBB
Troll lines	LTL

Med&BS Appendix 1.3	
Pair seine	SPR
Fly shooting seine	SSC
Boat seine	SV
Beam trawl	TBB
Trolling lines	LTL

In the FDInew data call, MS have the possibility to use the “NO” code (*e.g. shell fishing by hand, foot-fishing, diving, etc.*), when such possibility is not given in Med&BS data call where such gear have to be provided under the “-1” code. The Med&BS “-1” code includes also fishing data with ‘not known’/‘not available’ gear when “NK” code has to be used in FDInew. To guarantee true compatibility between the two data call, it should be ensured that MS encode ‘not known’ (NK) and ‘no’ (NO) gear in FDInew under the ‘not applicable/available’ “-1” code in Med&BS.

FDInew Appendix 4	
Not Known	NK
No Gear e.g shell fishing by hand	NO

Med&BS Appendix 1.3	
Not applicable/available	-1

Finally, in the 2 following tables the gear type coding which do not have analogue in the other data call are listed. To guarantee true compatibility between the two data calls, it should be ensured that FDInew complementary gear type coding are not useful for Med&BS fishing fleets (*or are regrouped under another codification in this data call*) and that it is possible to deduct “Glass eel fishing” from other fields available in the FDInew data call (*e.g. deducted from ‘target assemblage’ ; GLE-Glass eel*).

FDInew Appendix 4	
Hand dredges	DRH
Encircling gillnets	GNC
Combined gillnets-trammel nets	GTN
Mechanised dredges including suction dredges	HMD
Boat-operated lift nets	LNB
Shore-operated stationary lift nets	LNS

Med&BS Appendix 1.3	
Glass eel fishing	GEF

#### 3.2.1.4 Mesh size coding

Same ‘mesh size coding’ (*‘mesh type and size coding’ in Med&BS*) are asked in the two data calls (*FDInew Appendix 5 and Med&BS Appendix 1.4*).

In Med&BS ‘not available/not applicable’ mesh size information are coded under the unique code “-1”. In FDInew data call ‘not known’/‘not available’ mesh size information is coded “NK” and ‘not applicable’ is coded “NA”. Again, this is minor issues, which does not affect the compatibility between the two data calls but make it unnecessarily more difficult to link them.

### 3.2.1.5 Target assemblage coding

Main important issues have been raised in the ‘target assemblage coding’.

‘Target assemblage coding’ asked in FDInew (*Appendix 6*) must conform with ‘Fishery’ asked in Med&BS (*Appendix 1.5*).

However, while in FDInew 3 letter-codes are systematically used for target assemblage coding, the Med&BS codification corresponds rather to abbreviations and could be 2, 3, 4 or 5 letter-codes. The group prepared some tables in order to compare the list of reference codes used in both data calls.

Among the ~20 different target assemblage codes used, only 4 of them are absolutely identical in the both reports.

<b>FDInew Appendix 6</b>	<b>Med&amp;BS Appendix 1.5</b>
CEP Cephalopods	CEP Cephalopods
LPF Large pelagic fish	LPF Large pelagic fish
SPF Small pelagic fish	SPF Small pelagic fish
MOL Molluscs	MOL Molluscs

For 8 of the codes, codification used is different but definition behind them seems to cover the same target assemblage of species. To guarantee true compatibility between the two data calls, it should be ensured that same target assemblage of species are reported in the two databases under these two different codifications. Anyway to link the two databases, such assumptions have to be endorsed.

<b>FDInew Appendix 6</b>	<b>Med&amp;BS Appendix 1.5</b>
CAT Catadromous	CATSP Catadromous species
DEF Demersal fish	DEMF Demersal fish
DWS Deep-water species	DWSP Deep water species
MDD Mixed demersal and deep water species	MDDWSP Mixed demersal and deep water species
MPD Mixed pelagic and demersal fish	MDPSP Mixed demersal and pelagic species
SLP Small and large pelagic fish	SLPF Small and large pelagic fish
GLE Glass eel	GE Glass eel
FIF Finfish	FINF Finfish

Seven codes (*five in FDInew with no analogue in Med&BS and two in Med&BS with no analogue in FDInew*) raised more important issues and questioned the compatibility between the two data calls.

For the five codes in FDInew with no analogue in Med&BS, in order to guarantee true compatibility between the two data calls, it should be ensured that they are unnecessary for Med&BS fishing fleets or are regrouped under another codification in this data call.

For “Bluefin tuna fishing”, it should be ensured that such fishery could be deducted from the other fields available in the FDInew data call (*e.g. deducted from the ‘fishing technique coding’, PS-Purse seiners*).

Finally, for the “DEMSP” code (*demersal species*) used in Med&BS, target assemblage(s) of species corresponding to this code must be defined to see if codification available in FDInew could match.

FDInew Appendix 6
ANA Anadromous
CRU Crustaceans
FWS Freshwater species
MCD Mixed crustaceans and demersal fish
MCF Mixed cephalopods and demersal fish

Med&BS Appendix 1.5
BFTE Only for these species Bluefin tuna
DEMSP Demersal species

Two more codes (*see below*) are used in Med&BS but conform more with a “fishing technique” than a “target assemblage” definition. Their availability and usefulness must be demonstrated.

Med&BS Appendix 1.5
Non active vessels INACTIVE
Other activity than fishing OATF

Finally, in Med&BS ‘not available’/‘not known’ target assemblage information is coded “-1” when in FDInew “NK” code is used.

#### 3.2.1.6 Area coding

Same ‘area coding’ (*‘GFCM Area codification’ in Med&BS and ‘Sub Region’ level in FDInew*) are asked in the two data calls (*FDInew Appendix 8 and Med&BS Appendix 1.6*).

No missing value are allowed in Med&BS if the fishing area is ‘not available’/‘not known’ when “NK” code is used in FDInew. Difference of data coverage between the data calls could emerge, but GSA information should be generally available.

#### 3.2.1.7 Species coding

‘Species coding’ required in FDInew (*Appendix 11*) conform to ‘Species codification’ reported in Med&BS (*Appendix 1.7*). Same FAO 3-letter code are used in the two data calls.

FDInew asked for data on all the species caught while Med&BS asked only for a sub-list of 62 species (*the principal and more significant species landed in Mediterranean area*). Normally, Med&BS must be a subset of the FDInew data and no particular issue is expected. However, subset of the FDInew data has to be done before comparing the two datasets.

Nevertheless, some issues could emerge due to the codification of species that could differ between the two data calls for the same commercial species (*as an example ‘RPN-Rapana spp’ could be used in one data call when ‘RPW-Rapana venosa’ is used in the other data call for the same commercial species*). Such issue of codification must be looked after carefully before comparing the two datasets.



### 3.2.1.8 Metier coding (TOR 2a)

The “metier” field used in the comparison was defined as the combination of gear- fishery (*for the Med&BS*) or target assemblage (*for the FDInew*), and mesh\_size\_range fields, which were reported in both the Table A CATCH and the Table B LANDINGS of the Med&BS and in the Table\_A\_CATCH of the FDInew data call. It should be noted that prior to the comparison, all the NK, NO and NA values in the FDInew data call aforementioned fields were changed to “-1” to improve the compatibility of the datasets. Also, the FDInew dataset was subset for the species reported in the Med&BS Data call (Annex 2, Appendix 1.7 of the Med&BS data call).

The results are shown in the following Table:

Row Labels	Matching métiers		Métiers used only in the FDInew Data call		Métiers used only in the Med&BS data call		Total unique métiers used in both data calls
	Count	%	Count	%	Count	%	
<b>BGR</b>	2	7.14%	10	35.71%	16	57.14%	28
<b>CYP</b>	1	4.76%	8	38.10%	12	57.14%	21
<b>ESP</b>	5	17.86%	11	39.29%	12	42.86%	28
<b>FRA</b>	28	18.92%	50	33.78%	70	47.30%	148
<b>GRC</b>	5	71.43%		0.00%	2	28.57%	7
<b>HRV</b>	1	2.22%	30	66.67%	14	31.11%	45
<b>ITA</b>	7	10.94%	15	23.44%	42	65.63%	64
<b>MLT</b>	6	15.79%	14	36.84%	18	47.37%	38
<b>ROU</b>	2	7.41%	10	37.04%	15	55.56%	27
<b>SVN</b>	3	12.00%	13	52.00%	9	36.00%	25

In most cases there are large discrepancies between the data calls both in the metiers definition and in the total numbers used by each country. These discrepancies are largely explained following the disconformities in gear and fishery encoding shown above. The link between the two databases could not be done easily following the codifications used in the two data calls. In addition, the differences can be also partly due to the non-completion of these fields in the tables in some cases. Improving the link between the two databases on this specific field is particularly important because the Med&BS working group used “*gear-fishing*” as main sampling unit and as key element for the stock assessments.

### 3.2.2 Main results and plots comparing fishing statistics between the two data calls

Comparison among tables was done considering in terms of landing/discard information (both for weight and length abundance) data reported in Table C LANDINGS at length and Table D DISCARDS at length in the Med&BS call. Also, it was decided to compare data from Table A in FDI versus the previous ones, since in some cases the Med&BS catches table doesn't provide

information for all species and GSA in terms of age (e.g. crustaceans) resulting in an incomplete dataset.

### 3.2.2.1 “Sums of effort (kWdays-at-sea, GTdays-at-sea, fishing days)“ at the level of ‘country-year-GSA area-gear type’ (TOR2b)

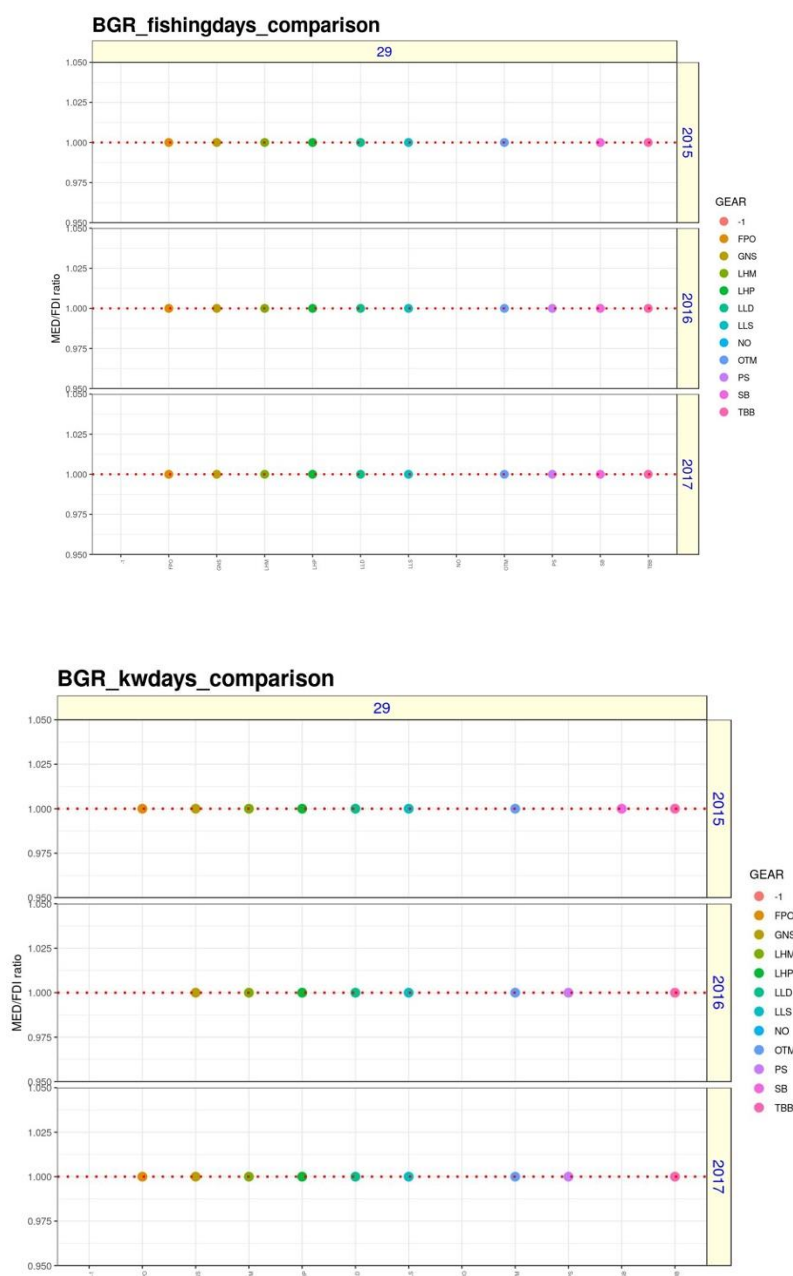
The comparison was made between the sums of effort (kWdays-at-sea, GTdays-at-sea, fishing days) data held in Table\_G\_EFFORT of the FDI database and the Table D EFFORT of the Mediterranean and Black Sea database.

All the resulting plots comparing the effort reported in the 2 data calls by country –area-year-gear are shown in the Annex 3.

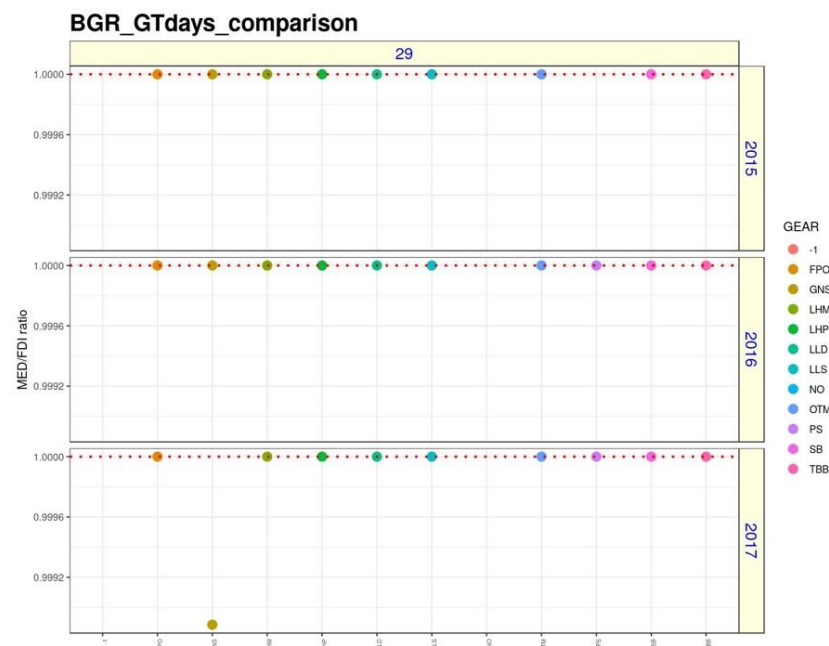
Here two case studies are presented – one for the Med and one for the BS.

## Bulgaria

In case of Bulgaria, the data provided for fishing days and kWdays from both data calls were identical.



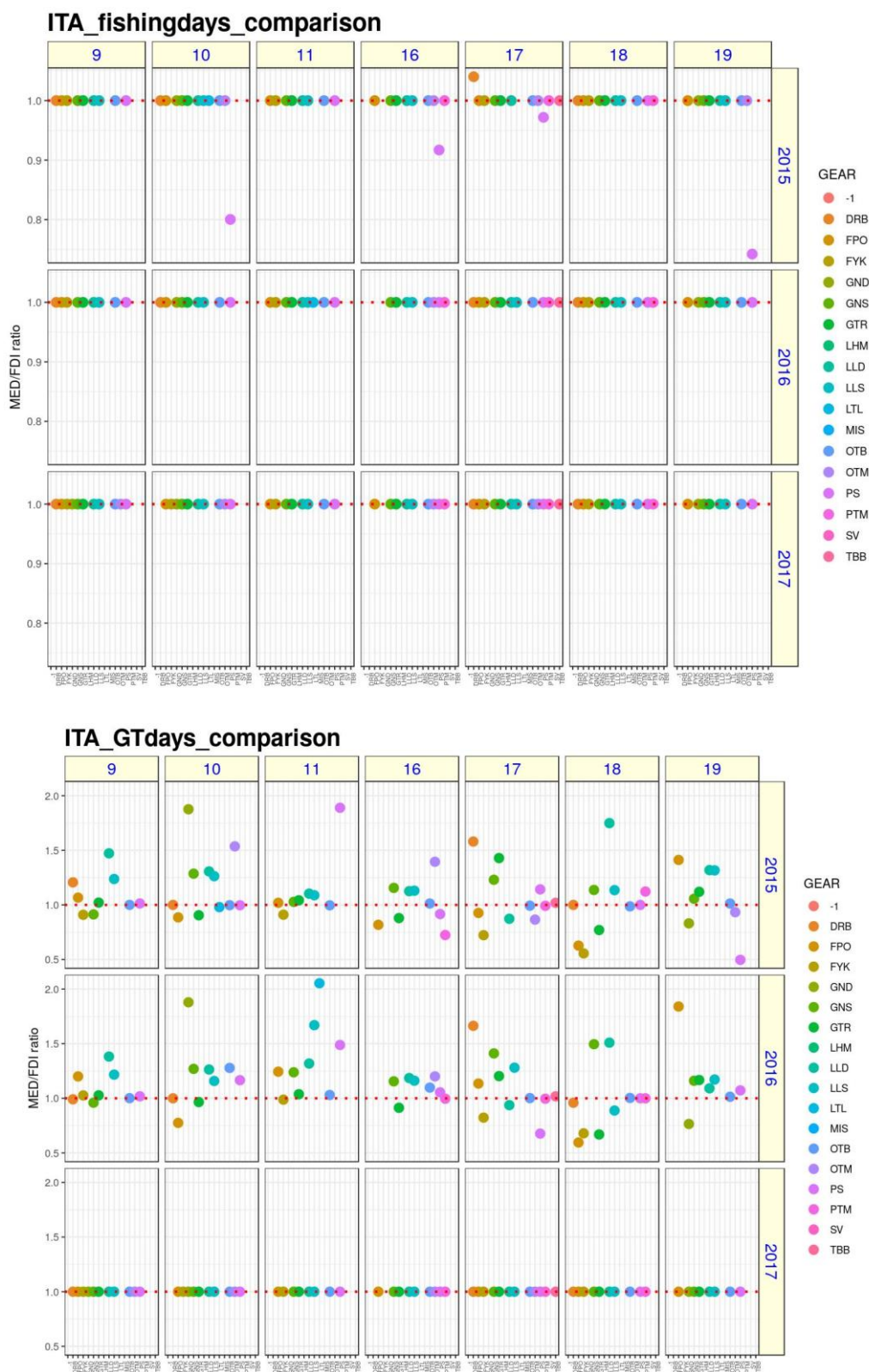
For the GTdays there was negligible difference – 0.0008% for one of the gears.

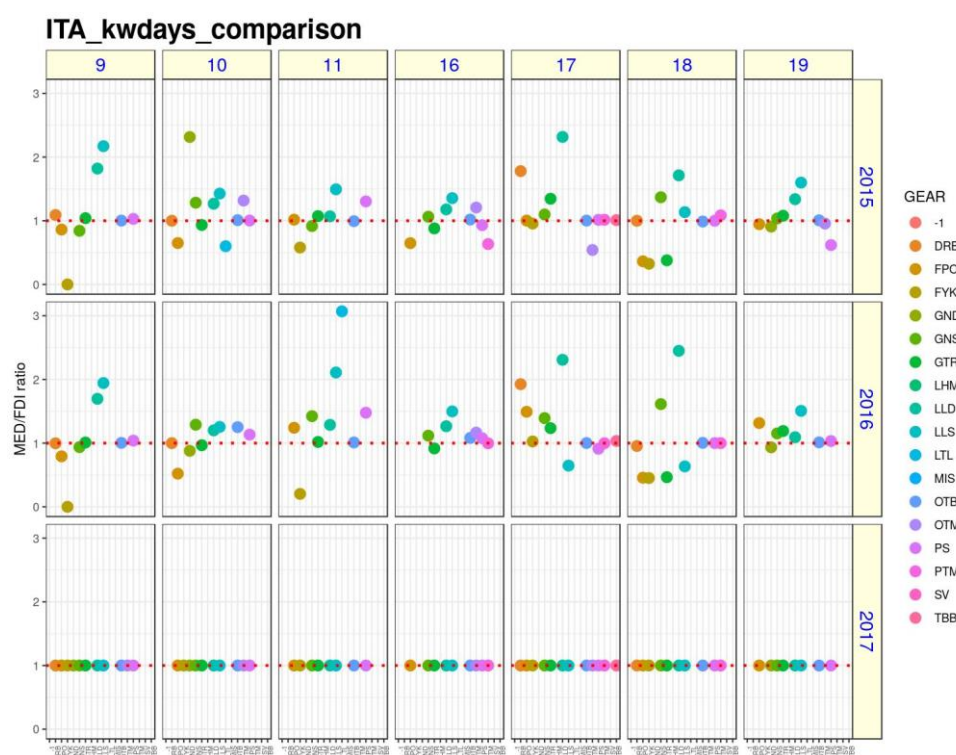


The possible match of the data was because the data for both data calls was extracted from one database and also the Bulgarian fishing fleet operates in the Black sea only.

## Italy

In case of Italy, the data provided for fishing days from both data calls was almost identical, except for one segment and year (PS in 2015). This was also the case for the kWdays and GTdays in 2017. However, considerable differences were noted in the kWdays and GTdays in 2015 and 2016. In almost half of these cases the difference was above 20%.





### 3.2.2.2 “Sums of landings (tonnes)” at the level of ‘country-year-GSA area-gear type’ (TOR 2c)

The comparison was made for the sums of landings (tonnes) between data held in Table\_A\_CATCH of the FDI database and the Table B LANDINGS of the Mediterranean and Black Sea database (as described in Annex 2, Appendix 2.1 of the Med&BS data call). The comparison was restricted to the species contained in Annex 2, Appendix 1.7 of the Med&BS data call.

Regarding the total landings by year and country, in most but not all the cases, the ratio was close to 1 (Table 3.2.2.2.1, Figure 3.2.2.2.1). However, there were pronounced differences for some countries and years (eg France , Greece and Cyprus).

Table 3.2.2.2.1. Total landings reported by country and year in the FDI and the MED&BS data calls and the corresponding ratio.

Country	Year	Landings (FDI)	in tons	Landings (Med&BS)	in tons	Ratio (FDI/Med&BS)
BGR	2015		4211.51		4211.52	1.00
BGR	2016		3532.92		3532.92	1.00
BGR	2017		3818.43		3818.40	1.00
CYP	2015		409.08		355.19	1.15
CYP	2016		5554.39		475.81	11.67
CYP	2017		543.48		606.55	0.90

Country	Year	Landings (FDI)	in tons	Landings (Med&BS)	in tons	Ratio (FDI/Med&BS)
ESP	2015		64096.44		64047.95	1.00
ESP	2016		64569.62		64532.11	1.00
ESP	2017		68318.10		68275.75	1.00
FRA	2015		4353.28		7007.01	0.62
FRA	2016		5071.57		4588259.07	0.00
FRA	2017		4714.59		11254.46	0.42
GRC	2016		32008.87		56812.64	0.56
HRV	2015		68409.79		68575.78	1.00
HRV	2016		66760.51		67602.21	0.99
HRV	2017		62864.85		64695.90	0.97
ITA	2015		156344.56		146766.91	1.07
ITA	2016		149213.50		147611.11	1.01
ITA	2017		138480.06		126709.62	1.09
MLT	2015		1288.46		1378.81	0.93
MLT	2016		1273.39		1431.21	0.89
MLT	2017		1092.81		1261.52	0.87
ROU	2015		4742.16		4740.21	1.00
ROU	2016		6676.10		6724.11	0.99
ROU	2017		9382.72		9331.51	1.01
SVN	2015		169.50		171.27	0.99
SVN	2016		133.83		134.84	0.99
SVN	2017		107.00		105.93	1.01
GRC	2015	NA			13870.46	NA
GRC	2017	NA			7720.07	NA

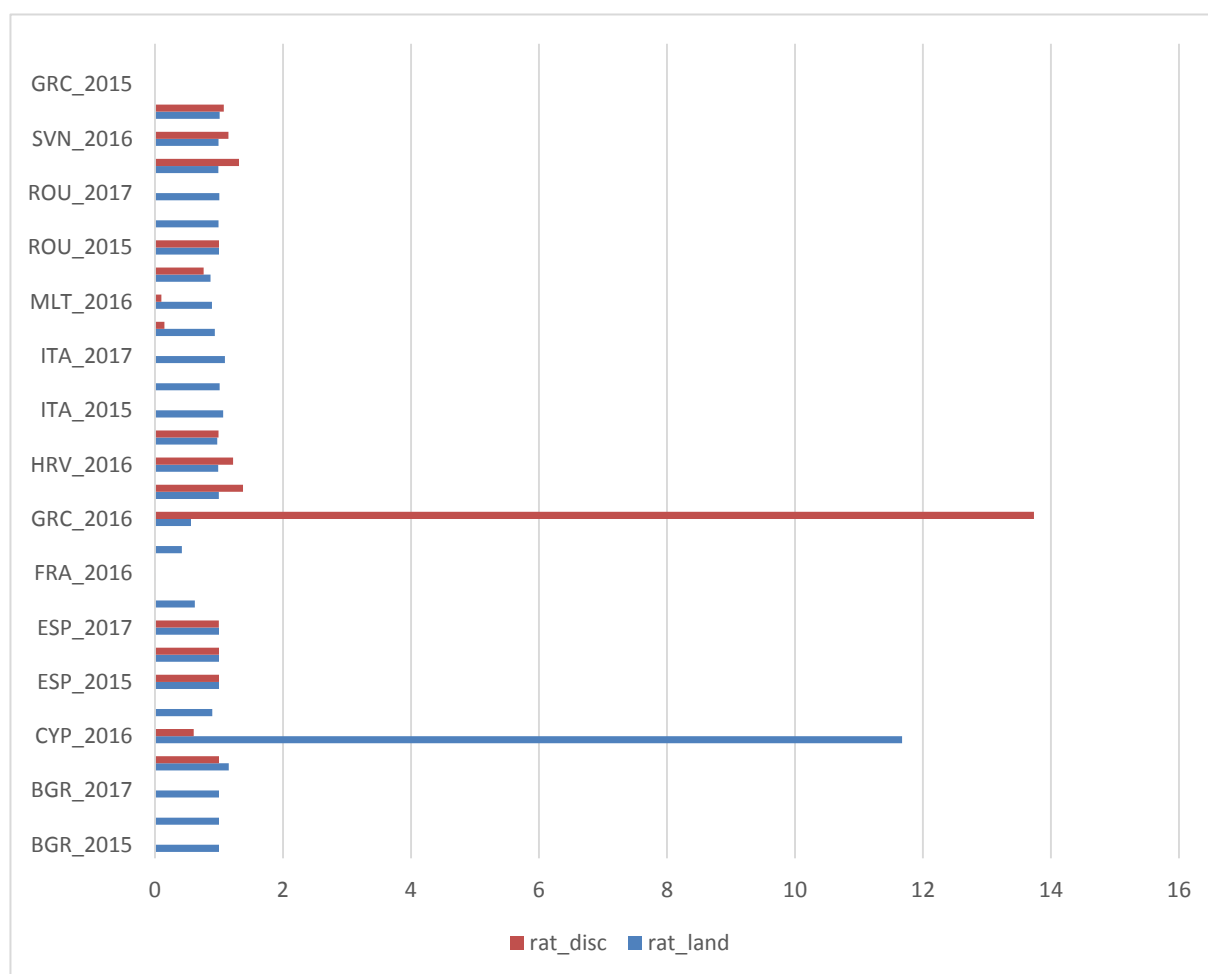


Figure 3.2.2.2.1. Ratio between total landings and total discards (unwanted catch) reported by country and year in the FDI and the MED&BS data calls.

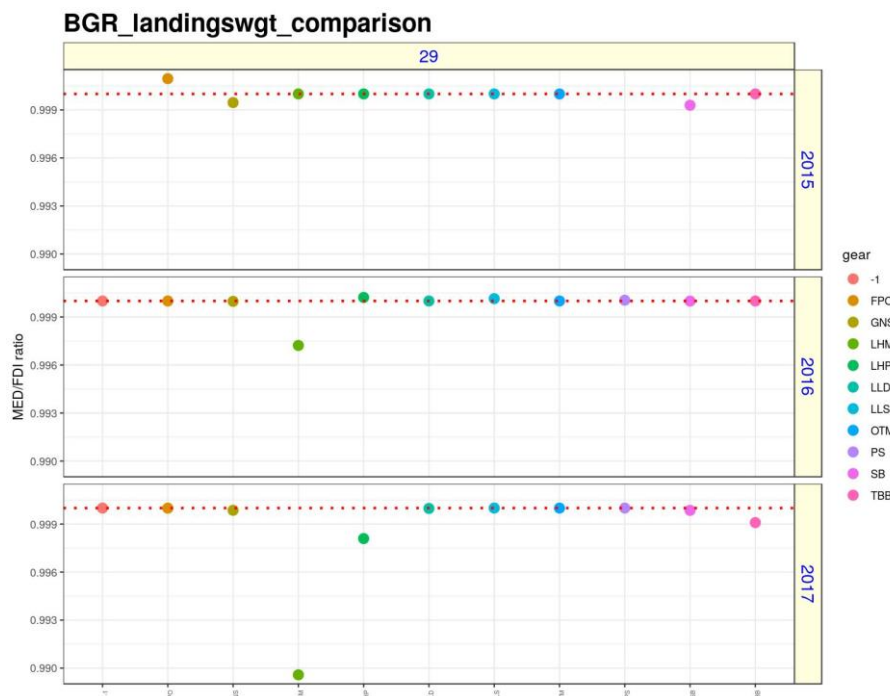
All the resulting plots comparing the landings reported in the 2 data calls by country –area-year-gear are shown in the Annex 3.

Here two case studies are presented – one for the Med and one for the BS.



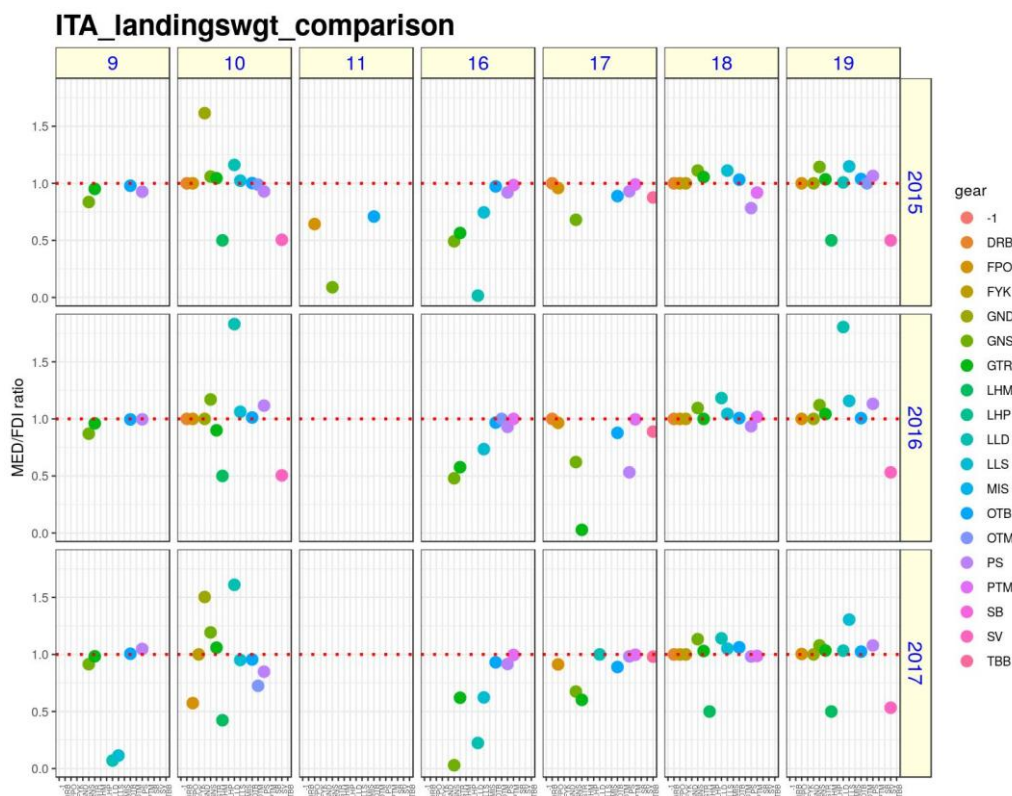
## Bulgaria

In case of Bulgaria, it can be concluded that the differences between the landings are because of the rounding of the numbers.



## Italy

In the case of Italy, some considerable differences were found, which were more pronounced in areas 10, 11, 16 ad 17. It seems also that the differences tended to be larger for certain gears (eg FPO, GND, GNS, GTR, LHM, LLD, LLS and PS)





### 3.2.2.3 “Sums of unwanted catch (tonnes)” at the level of ‘country-year-GSA area-gear type’ (TOR 2d)

The comparison was made for the sums of discards or unwanted catch (tonnes) between data held in Table\_A\_CATCH of the FDI database and the Table C DISCARDS of the Mediterranean and Black Sea database. The comparison was restricted to the species contained in Annex 2, Appendix 1.7 of the Med&BS data call.

Regarding the total discards by year and country, in most but not all the cases, the ratio was close to 1 (Table 3.2.2.3.1). However, there were pronounced differences for some countries and years (eg Malta, Greece and Cyprus). Also, some countries do not report Unwanted catch in the TABLE\_A of the FDInew (eg Italy and France). Differences are expected to occur given the definition of the Unwanted catch in FDInew, which includes also landings below MCRS (minimum conservation reference size).

Table 3.2.2.3.1. Total discards (unwanted catch) reported by country and year in the FDI and the MED&BS data calls and the corresponding ratio.

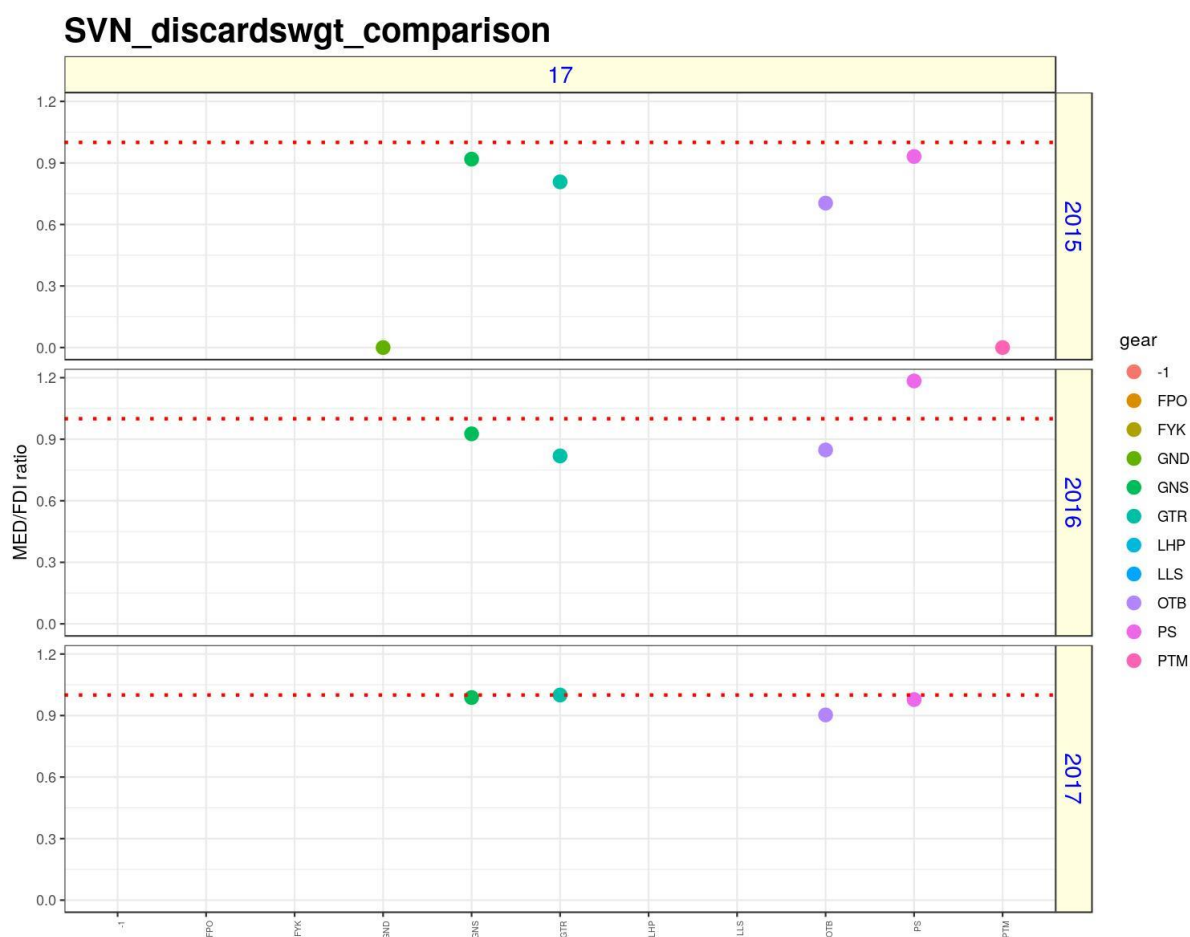
country	year	Unwanted (FDI)	Catch	Discards (Med&BS)	Ratio (FDI/Med&BS)
CYP	2015		3.11	3.11	1.00
CYP	2016		2.91	4.79	0.61
CYP	2017		0.00	0.68	0.00
ESP	2015	9019.46		9020.10	1.00
ESP	2016	7465.16		7465.16	1.00
ESP	2017	6429.19		6450.41	1.00
FRA	2015	0.00		96.86	0.00
FRA	2016	0.00		31.28	0.00
FRA	2017	0.00		73.71	0.00
GRC	2016	6156.03		448.20	13.73
HRV	2015	87.12		63.30	1.38
HRV	2016	63.41		51.97	1.22
HRV	2017	112.23		113.01	0.99
ITA	2015	0.00		13808.32	0.00
ITA	2016	0.00		17485.81	0.00
ITA	2017	0.00		9017.89	0.00
MLT	2015	1.17		7.95	0.15
MLT	2016	4.77		47.66	0.10
MLT	2017	38.06		50.12	0.76
ROU	2015	4.56		4.56	1.00
ROU	2016	0.00		0.00	NA
ROU	2017	0.00		0.00	NA

country	year	Unwanted (FDI)	Catch	Discards (Med&BS)	Ratio (FDI/Med&BS)
SVN	2015		18.03	13.74	1.31
SVN	2016		11.07	9.64	1.15
SVN	2017		8.56	7.97	1.07
GRC	2015	NA		1433.84	NA
GRC	2017	NA		166.09	NA

All the resulting plots comparing the landings reported in the 2 data calls by country –area-year-gear are shown in the Annex 3.

The case studies for Slovenia and Spain are given below.

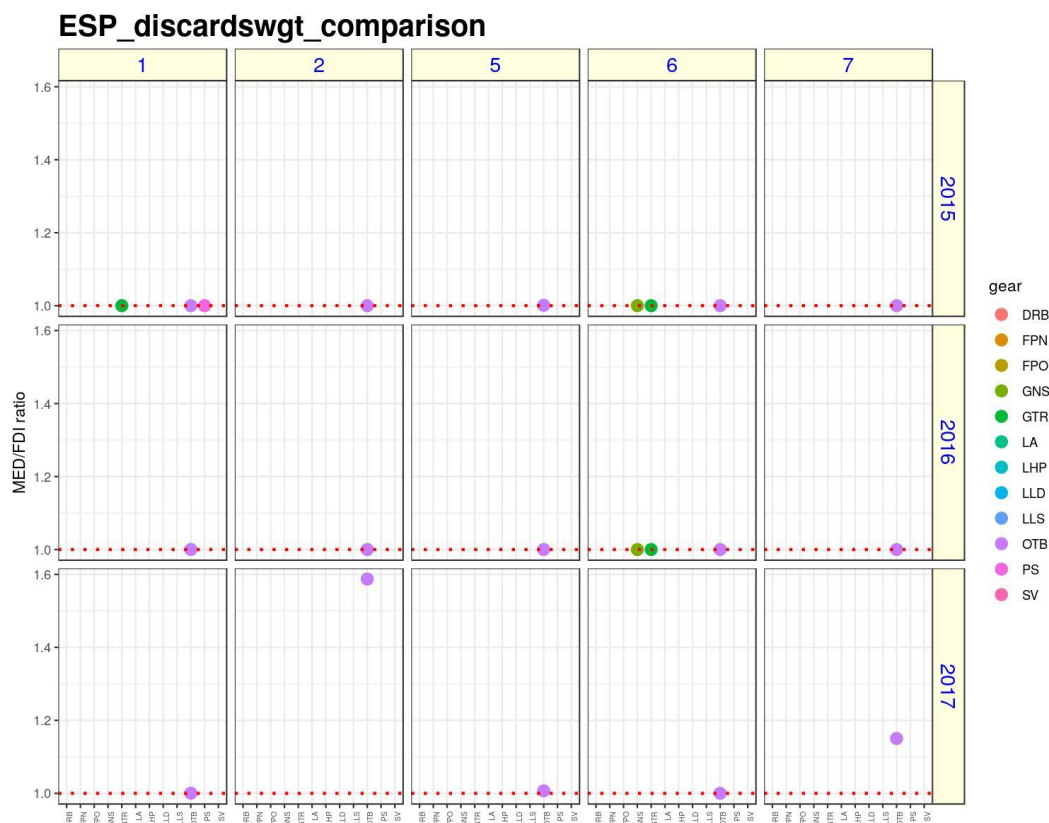
## Slovenia



For Slovenia most of the ratios for the discards to the unwanted catch comparisons were close to 1 especially in 2017 and 2016. However, there were more pronounced differences in 2015.



## Spain



In Spain the values for discards provided in the two data calls were generally compatible, except for GSA2 in 2017.

### 3.2.2.4 Abundance for landings and discards at the level of country-year-GSA area-gear type (TOR 2e)

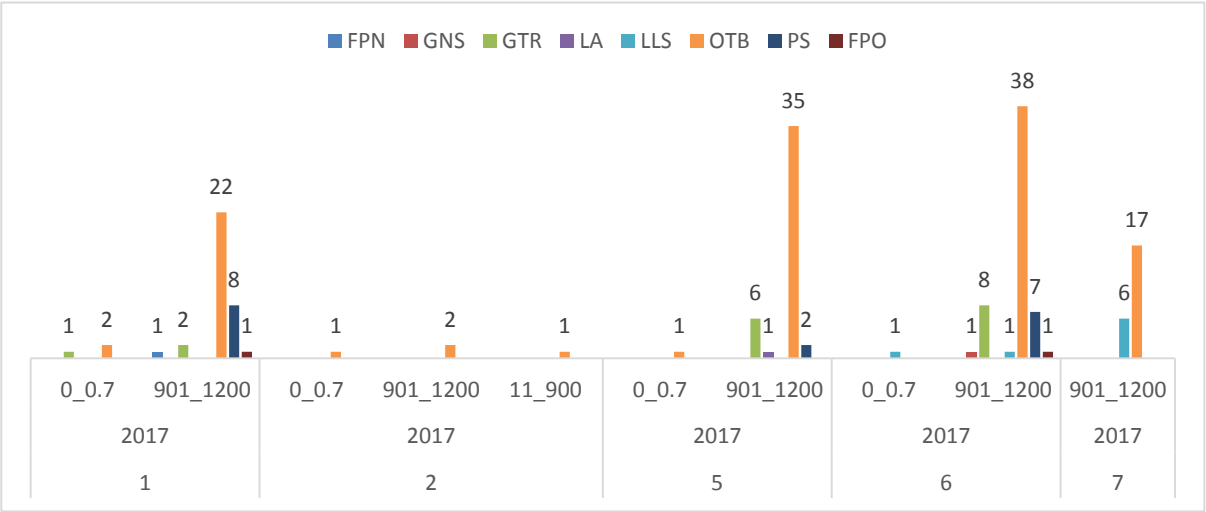
#### 3.2.2.4.1 Landings abundance

The comparison for landings abundance was performed between data reported in TABLE\_F\_LANDINGS\_AT\_LENGTH of the FDI database and Tables B 'Fisheries landings at length' of the Mediterranean and Black Sea database (as described in Annex 2, Appendix 2.2 and 2.3 of the Med&BS data call). Comparison was restricted to the species contained in Annex 2, Appendix 1.7 of the Med&BS data call. It should be noted that in the Med&BS data call the numbers are reported in thousands, while in the FDInew the raw numbers should be reported. So a complete match between the 2 data calls should result in a ratio of 1000.

All the resulting plots comparing the landings abundance reported in the 2 data calls by country –area-year-gear are shown in the Annex 3.

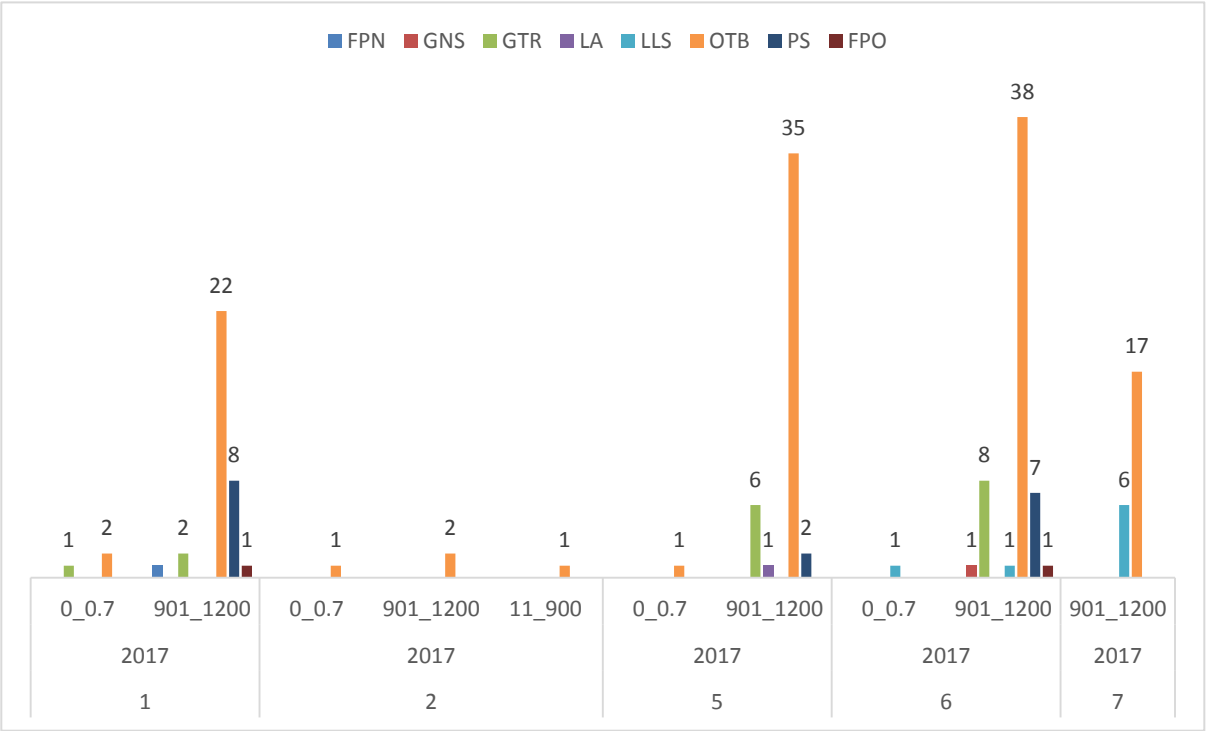
Here, for landings abundance, the results for Italy and Spain in 2017 are shown using histograms of the ratio between the FDI to the Med&BS data.

Italy



In Italy for 2017, the ratios of landings abundance show quite satisfactory agreement between the data provided (ratios in the range 900- 1200). However, there are cases where the discrepancies are considerable.

Spain



The situation was similar also for Spain in 2017.

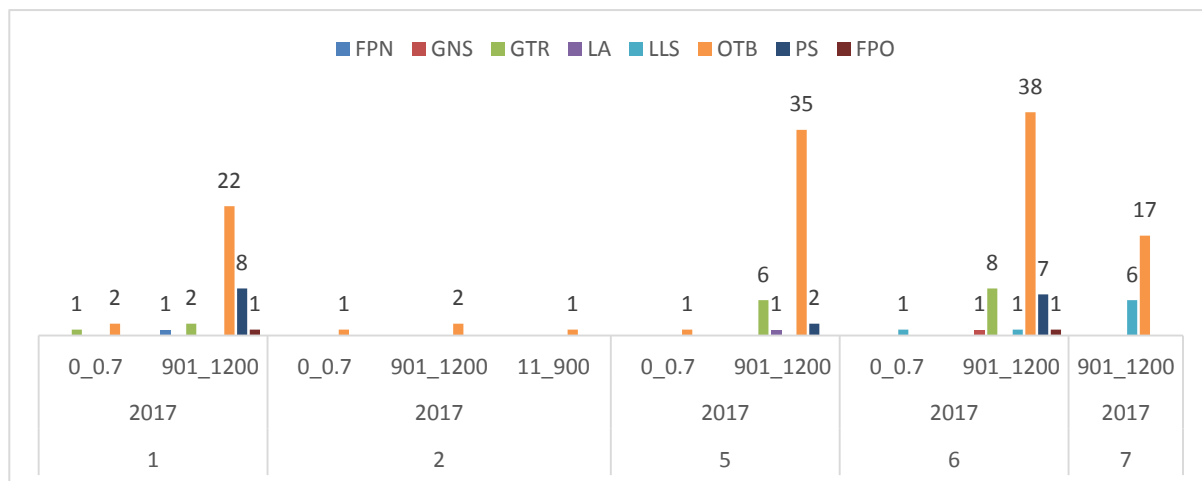
### 3.2.2.4.2 Discards abundance

The comparison for discards abundance was performed between data reported in TABLE\_D\_UNWANTED\_CATCH\_AT\_LENGTH of the FDI database and Table C ‘Fisheries discards at length’ of the Mediterranean and Black Sea database (as described in Annex 2, Appendix 2.2 and 2.3 of the Med&BS data call). Comparison was restricted to the species contained in Annex 2, Appendix 1.7 of the Med&BS data call. It should be noted that in the Med&BS data call the numbers are reported in thousands, while in the FDInew the raw numbers should be reported. So a complete match between the 2 data calls should result in a ratio of 1000.

All the resulting plots comparing the discards abundance reported in the 2 data calls by country –area-year-gear are shown in the Annex 3.

Considering discards abundance, the results for Italy and Spain in 2017 are shown using histograms of the ratio between the FDI to the Med&BS data.

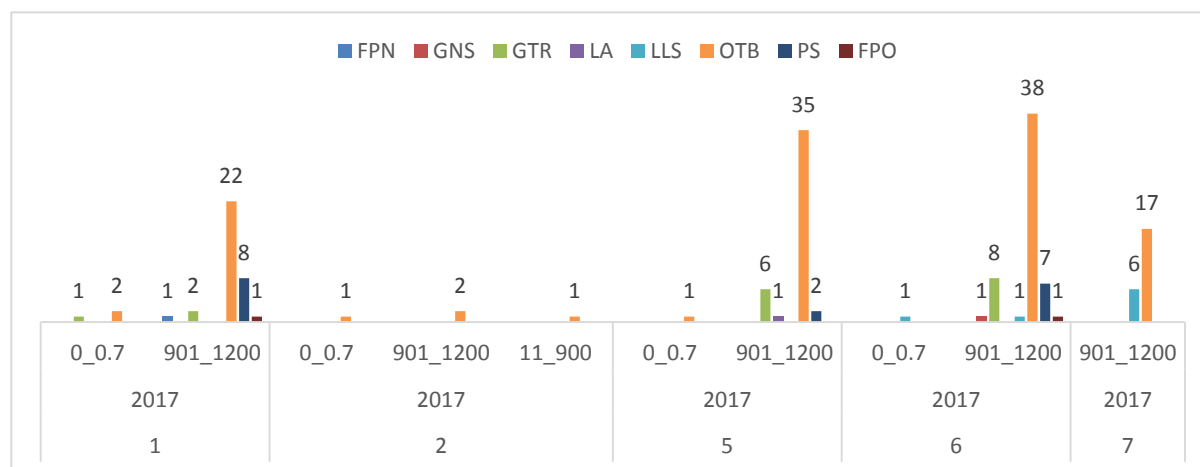
#### Italy



The results show considerable discrepancies in the abundance of discards in all areas and gears.

## Spain

A similar situation was also apparent for Spain Discards abundance in 2017.



## 2. Issues raised regarding the compatibility between the data collected in the New-FDI database and the data collected in the Mediterranean and Black Sea database

The main issues identified include:

- Mismatches in the list of reference of code which is more significant for gear type, Target assemblage and metier and to a lesser extent for country, vessel length class, mesh size, area and species.
- Abundance units of measurement, whereby raw numbers are used in the FDInew while thousands are reported in the Med&BS.
- Definitions of Unwanted catch (used in the FDInew) and of discards (used in the Med&BS) are not compatible, since the former includes both discards and landings below MCRS.
- In both the TABLE\_F\_LANDINGS\_AT\_LENGTH and the TABLE\_D\_UNWANTED\_CATCH\_AT\_LENGTH of the FDInew, it is not straightforward to extract abundance data at the area- gear level, since the domain is used as the level of aggregation. Nevertheless, these fields could be added to the next version.

## Conclusions

From the comparisons performed, it is apparent that more effort is necessary to ensure full compatibility between the two datasets, especially regarding the reference codes used, the calculation of the biological data estimates at the level of disaggregation required in the Med&BS data call (*adequacy of aggregation level asked in the two data calls*), and the difference in definition used for “Discards” and “Unwanted Catch” estimates.

In particular, the issue of metier and aggregation level compatibility is of particular importance for the Med&BS, since this is used as the main sampling unit and has a key role in the stock assessment.

Data tables concerning fisheries activity data seem to be more compatible in comparison and no structural differences have been highlighted between the two databases for these data.

Nevertheless, in all cases, comparison in effort, landings, discards and abundance have highlighted discrepancies for most of the countries. Thus, prior to a decision regarding the switch from the Med&BS data call to the FDInew data call, differences highlighted between the two data calls must be addressed and objective reasons must be founded to explain the different numbers available in the two databases.

It should be stressed that the same fisheries data (fishing effort (days at sea and fishing days), total weight of landings by species) and biological estimates (unwanted catch, length and age distributions) are asked in the two data calls. Therefore, there is objectively no core reason that these data differ between them once the different issues highlighted above have been solved.

It should also be noted that among the deliverables of the ongoing MARE/2016/22 project “STrengthening REgional cooperation in the Area of fisheries biological data collection in the Mediterranean and Black Sea (STREAM)”, is the development of routines to compile some of the tables (Tables C, D, E, F) required by the FDI Data Call using the Med&BS Tables as input, in order to use the same raised length distribution for all the Data Calls, avoiding inconsistencies among the delivered tables. The project is expected to be finalised in 2019. As soon as the routines are available, a STECF working group could be assigned for their evaluation and adoption, at least during the transition period from the Med&BS to the FDInew data call, if this transition is finally decided.

The ratio between the effort (kWdays-at-sea, GTdays-at-sea, fishing days) reported in the MED&BS and the FDI Data Calls are reported by MS, area, gear type and year is provide in Annex 3.



### 3.3 TOR 3 - Produce maps of spatial effort and landings by c-squares

#### 3.3.1 *Produce maps of effort and landings by c-square for the following regions (as defined in COM-2016-134 for areas other than ‘distant waters’) and major gear types (as defined in appendix 4 of the data call):*

- a) Baltic; North Sea; North Western Waters; South Western Waters; Mediterranean and Black Sea; Distant waters<sup>5</sup>
- b) Trawls (except beam trawls) with mesh < 100mm; trawls (except beam trawls) with mesh ≥ 100mm; beam trawls with mesh < 120mm; beam trawls with mesh ≥ 120mm; seine nets; gillnets and entangling nets; dredges; hooks and lines; surrounding nets; pots and traps.

#### 3.3.2 *Identify areas and fleets where spatial data was not available and propose possible ways forward.*

Table H (spatial\_landings) and Table I (spatial\_effort) records were properly cleaned of errors, analysed and prepared for mapping. The cleaning step removed all the records attributed with incorrect coordinates and where there was no indication of the **Sub region**. In the maps presented below, records marked as confidential by Member States have been removed as agreed by the EWG. A more detailed analysis on the main sources of error and on the confidential records is detailed in Tor 3.2. The final datasets used for mapping were aggregated at the following level:

***Country, Year, Quarter, Macro-gear, Confidentiality, Specon, Sub region, Fishing zone, ICES Rectangle, value (effort/landings) and c-square code***

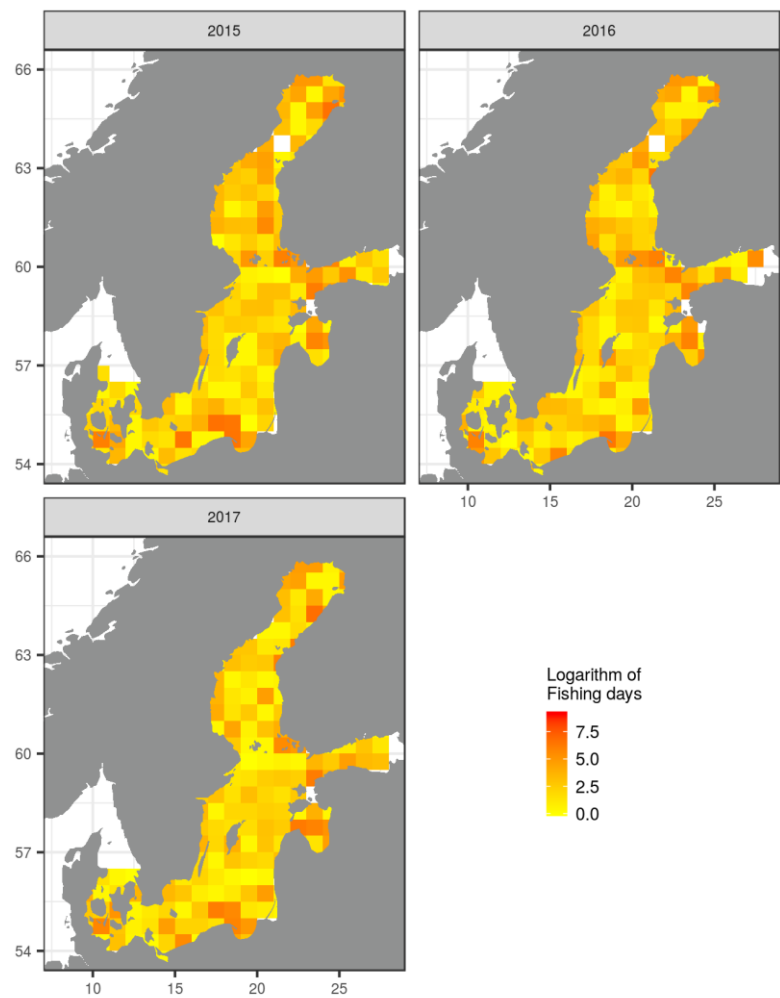
The level of aggregation enabled the preparation of additional maps that are available as a separate Annex. The maps below are presented for main Fishing Zone and Macro-gear and for all member States combined.

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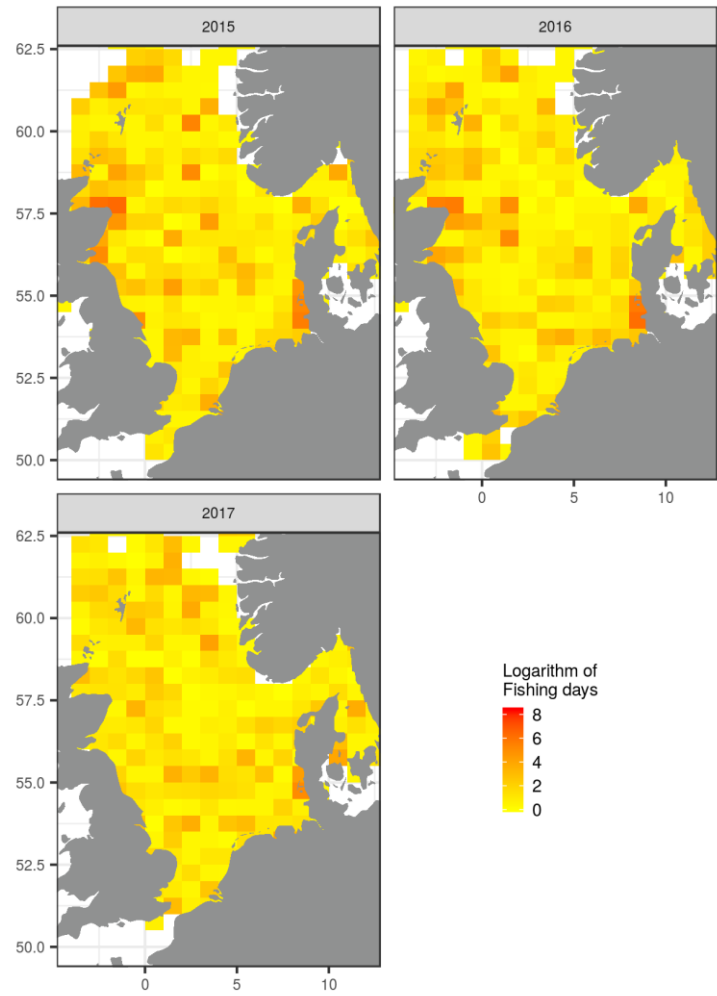
<sup>5</sup> Defined here as waters not covered by the areas previously listed.

**TOR 3.1.a.1 - Spatial effort maps: main fishing zones**

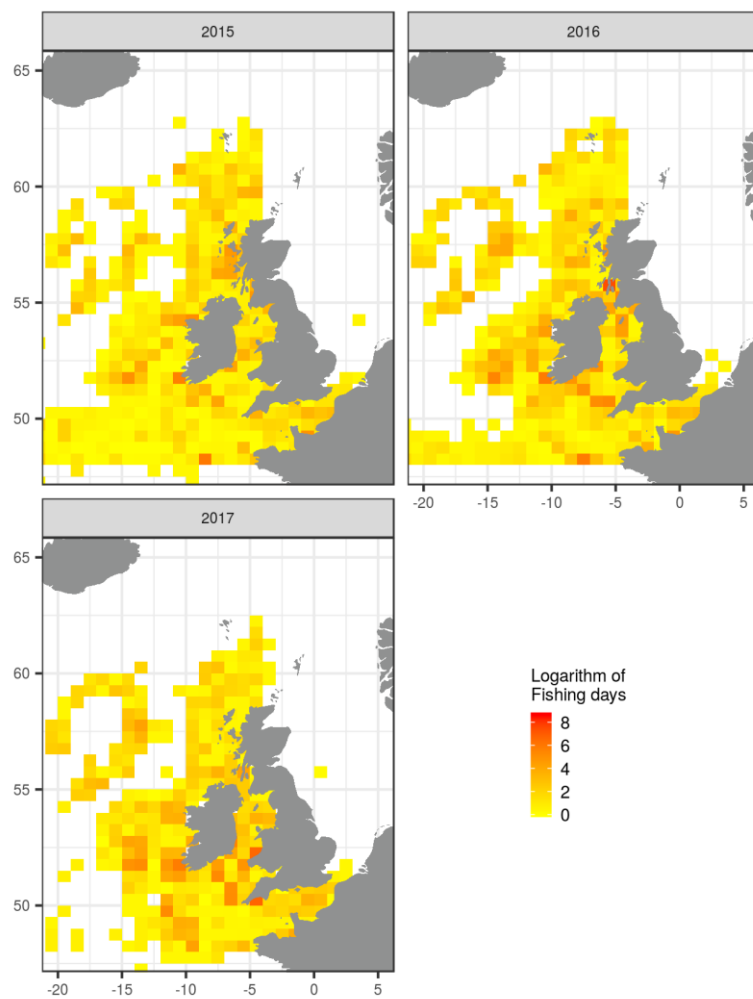
*Baltic Sea*



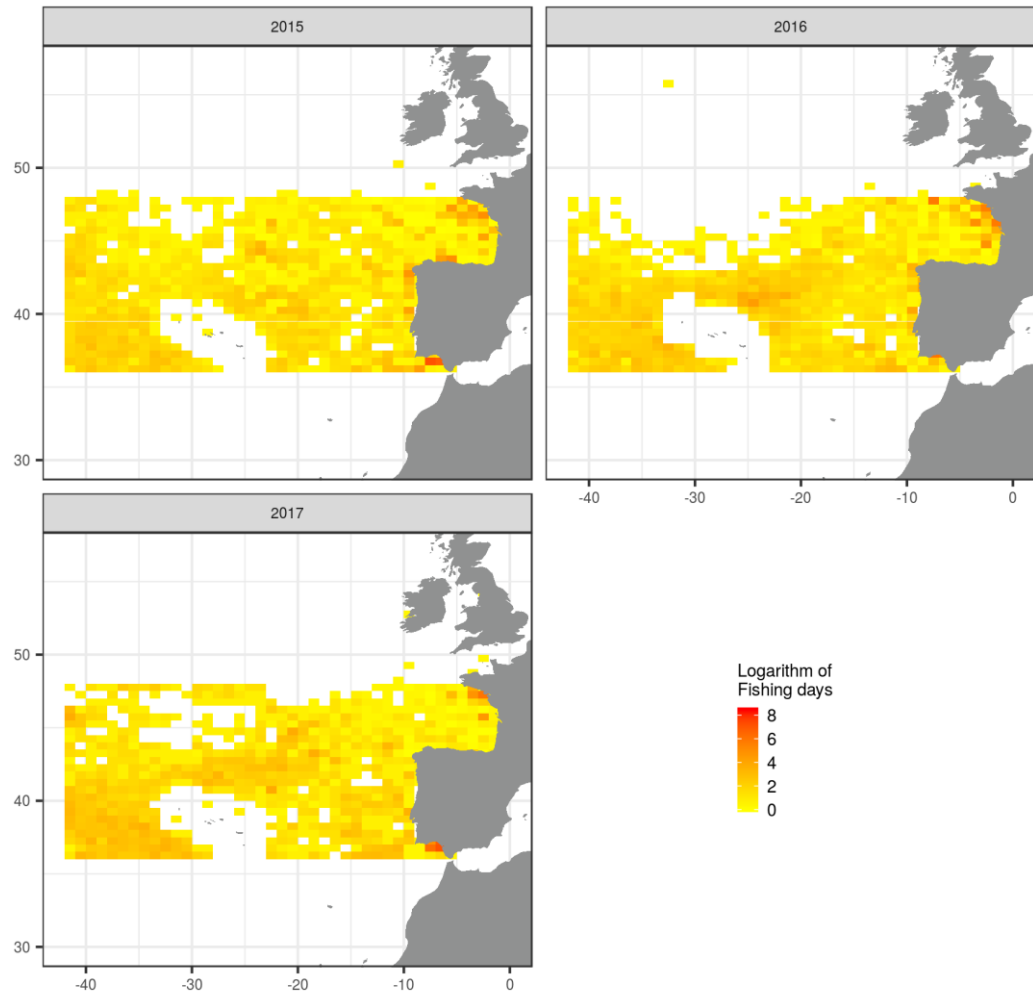
North Sea



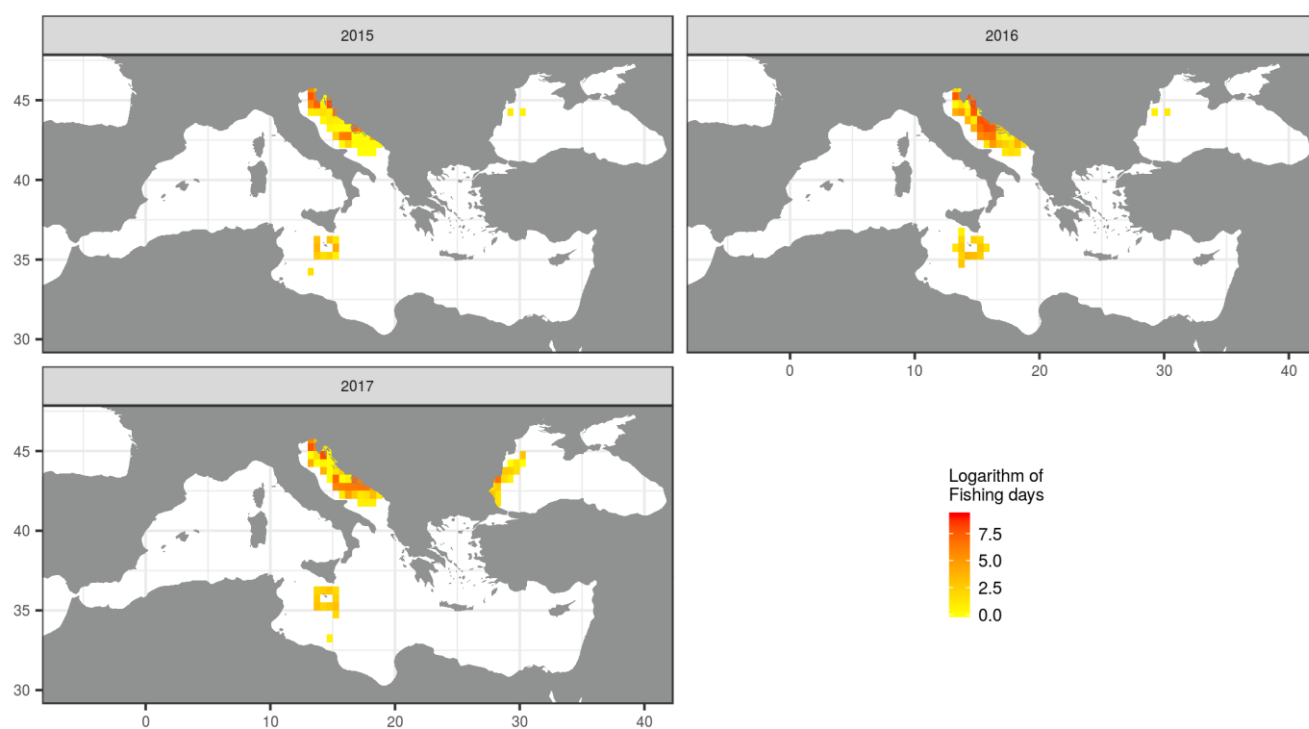
## North Western Waters



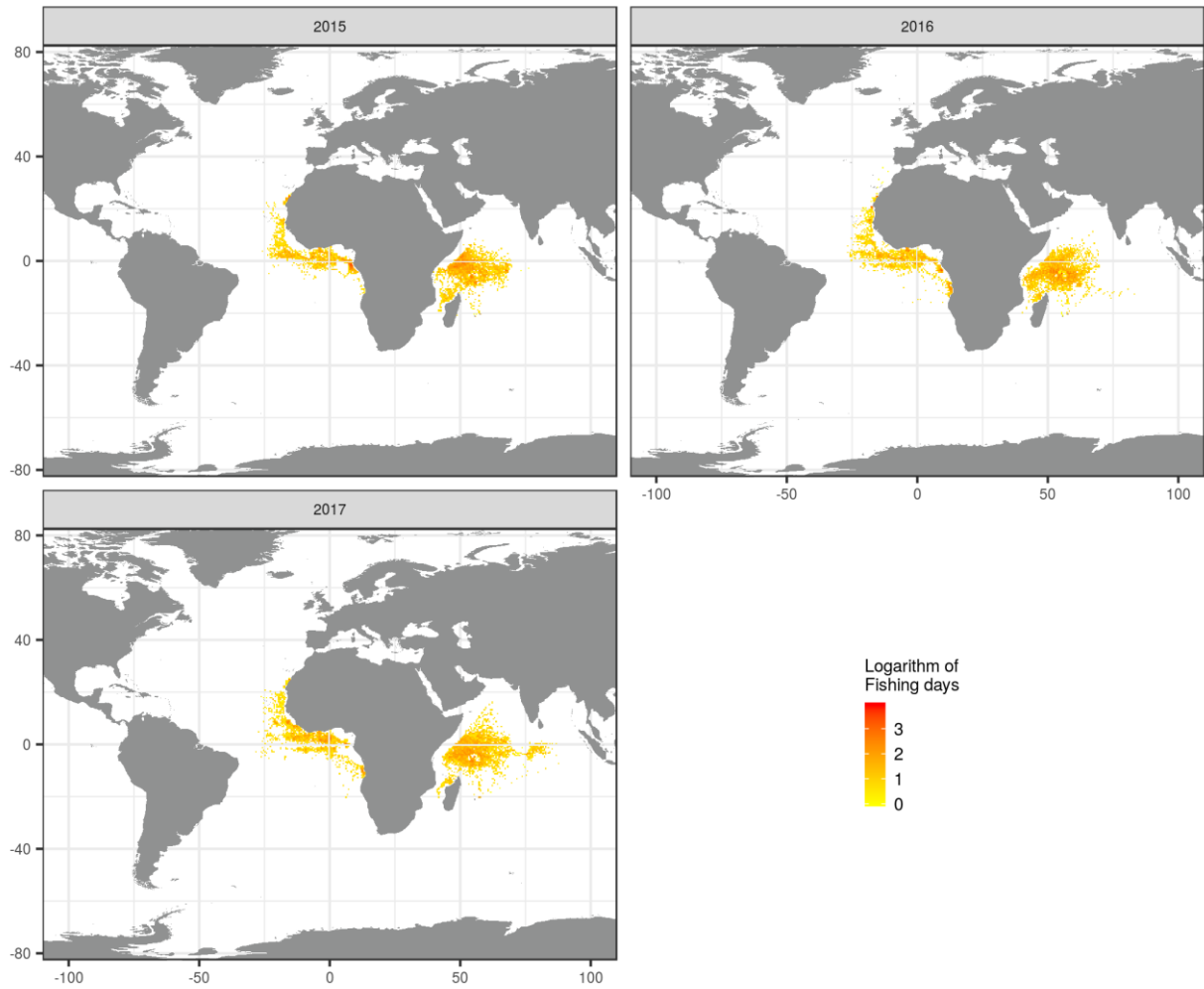
*South Western waters*



## *Mediterranean and Black Sea*

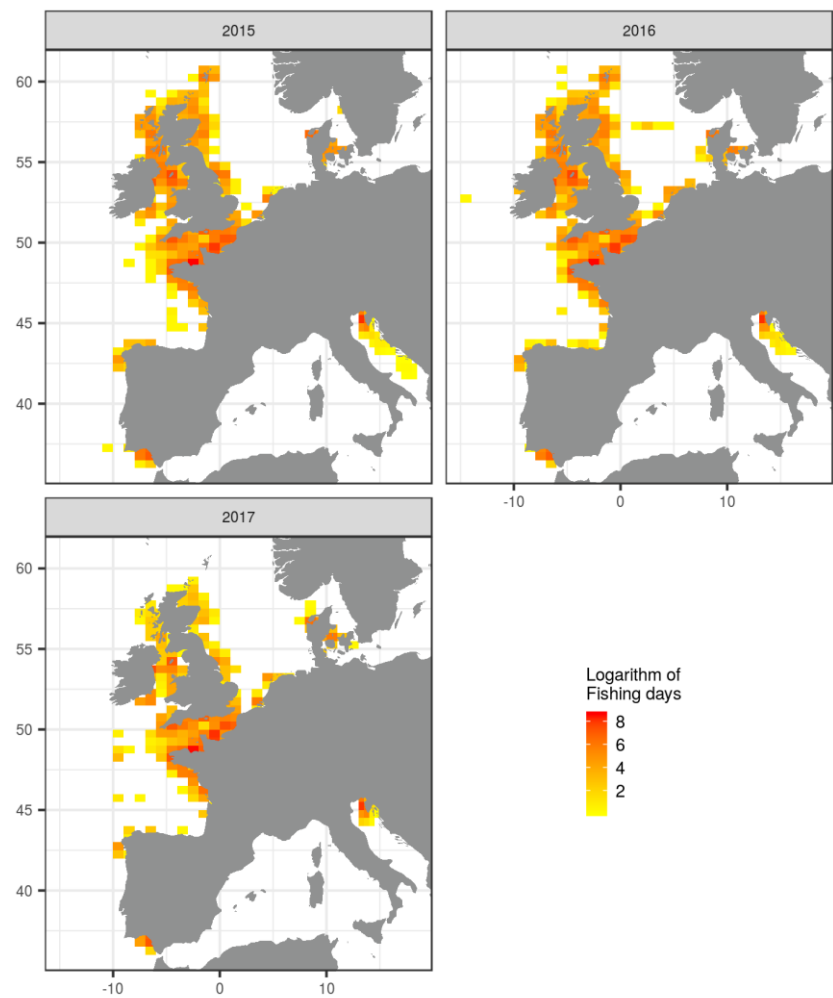


*Distant Waters*

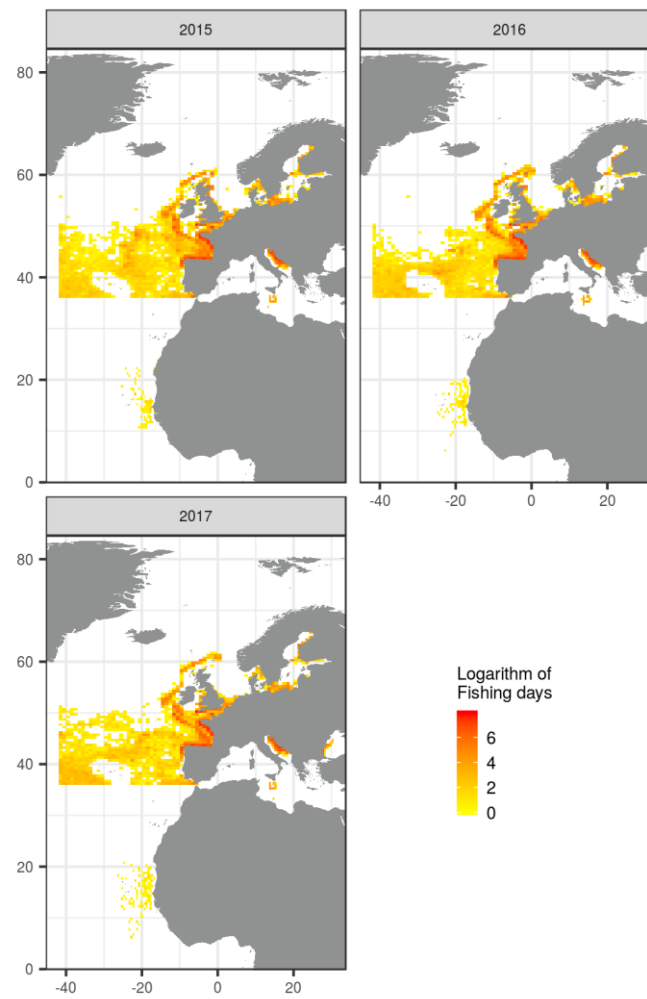


**TOR 3.1.a.2 - Spatial effort maps: main gear types**

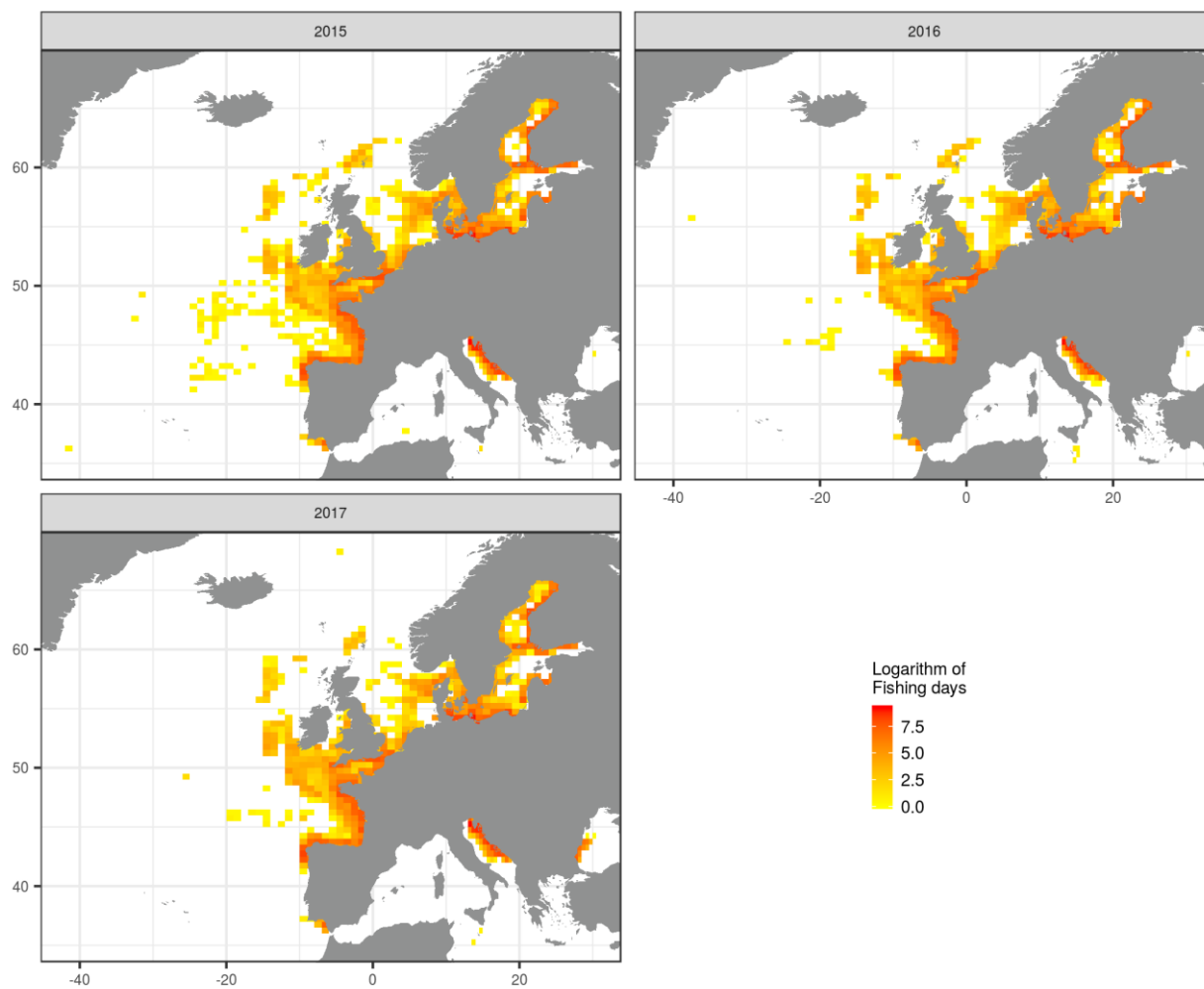
*Dredges*



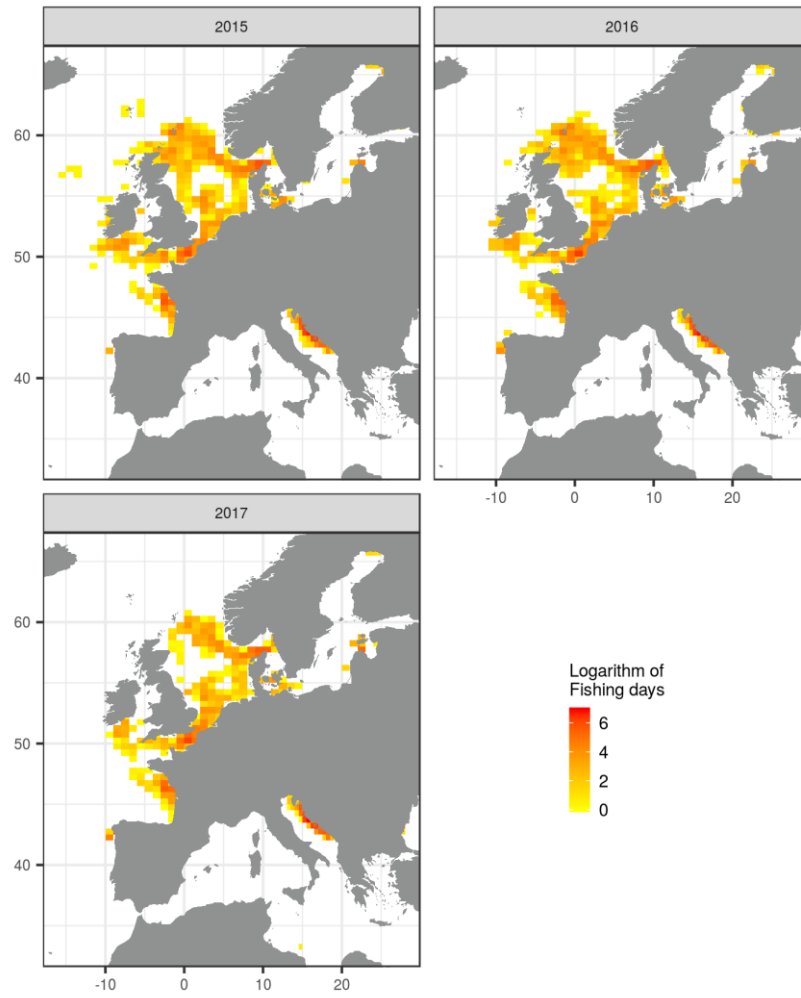




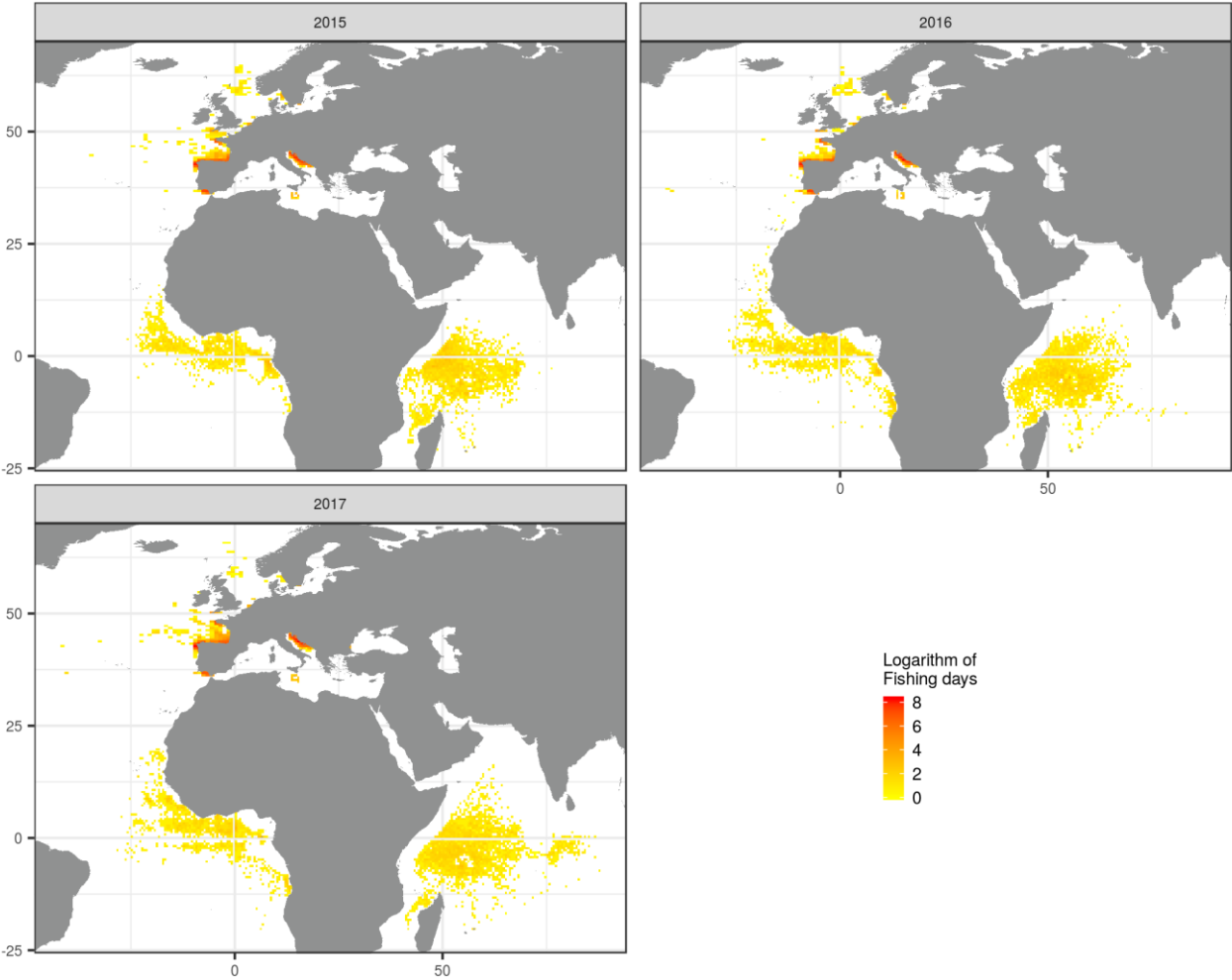
## Nets



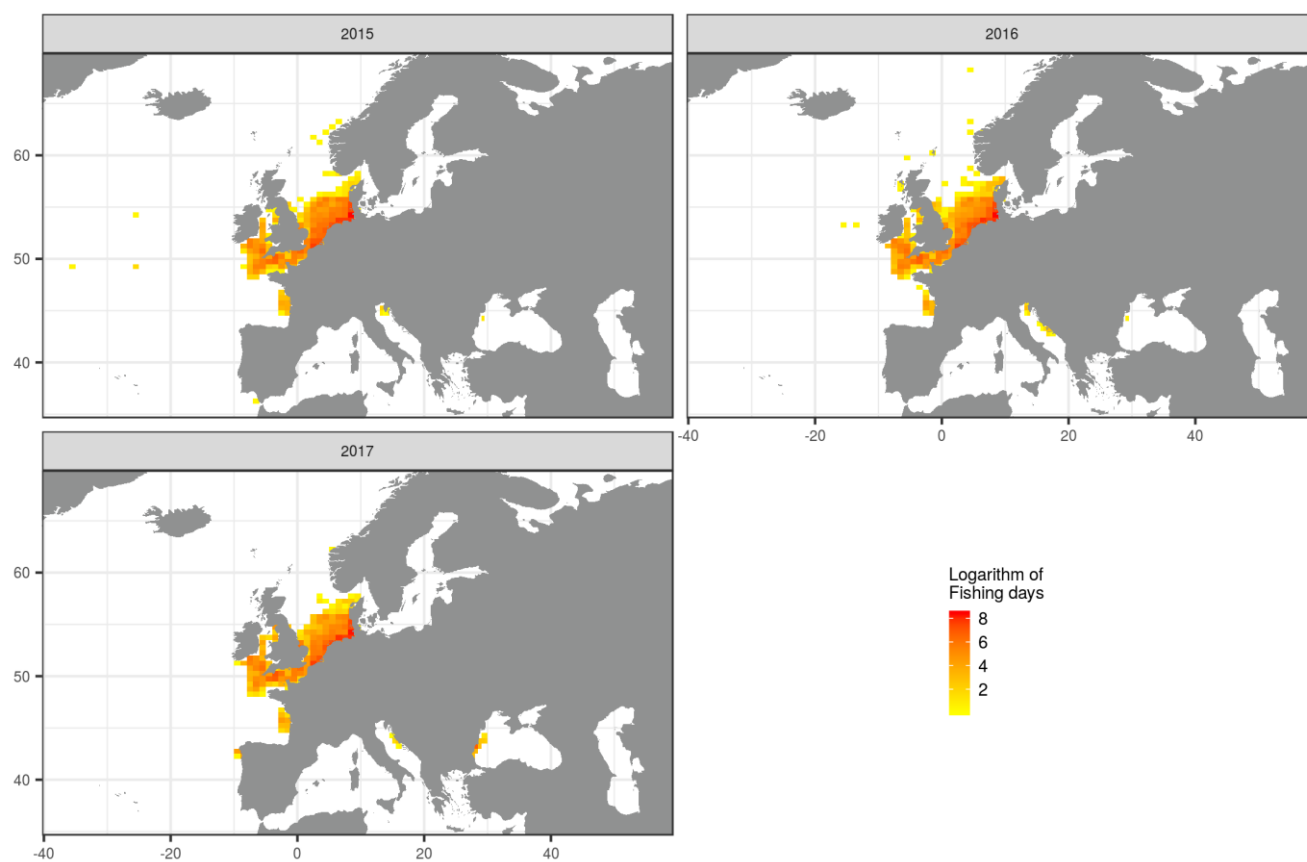
## *Seines*



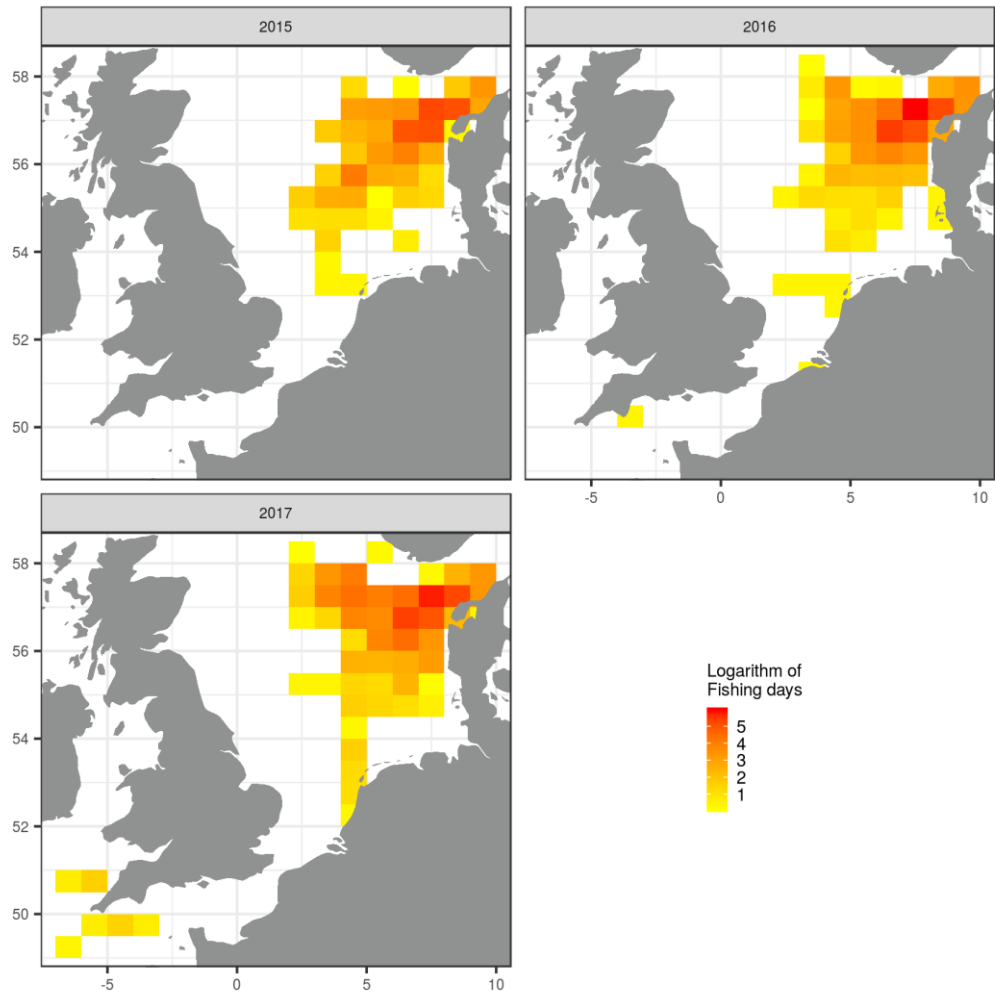
Surrounding nets



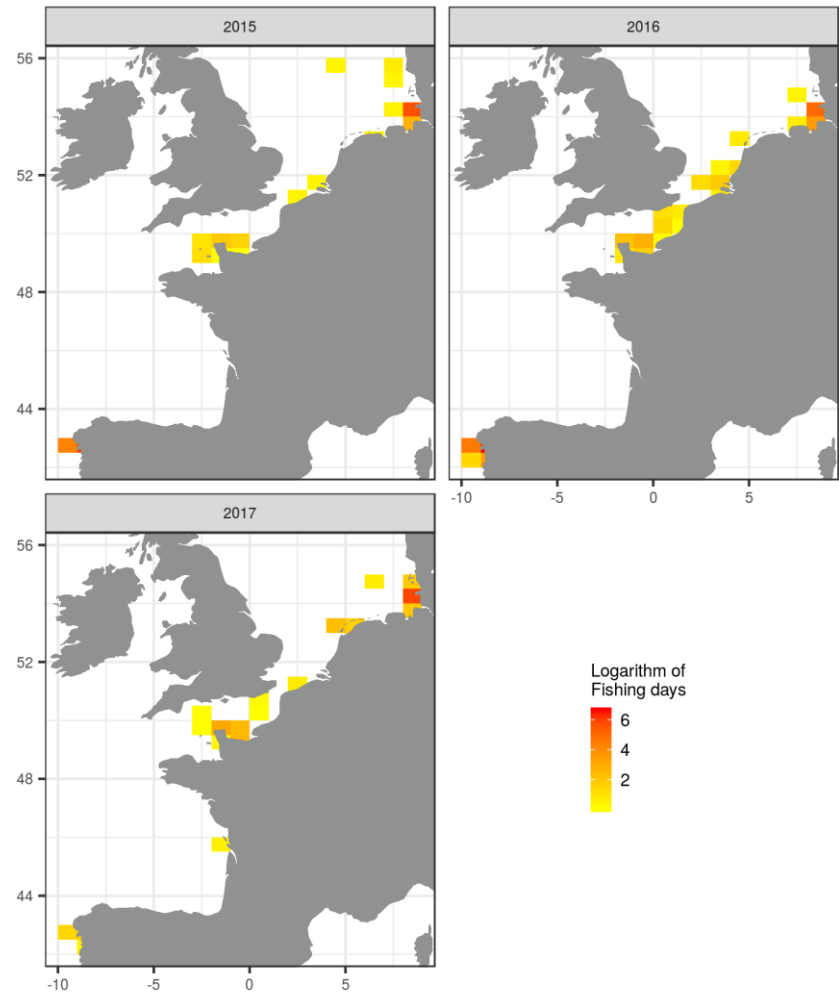
*Beam trawlers with less than 120mm mesh size*

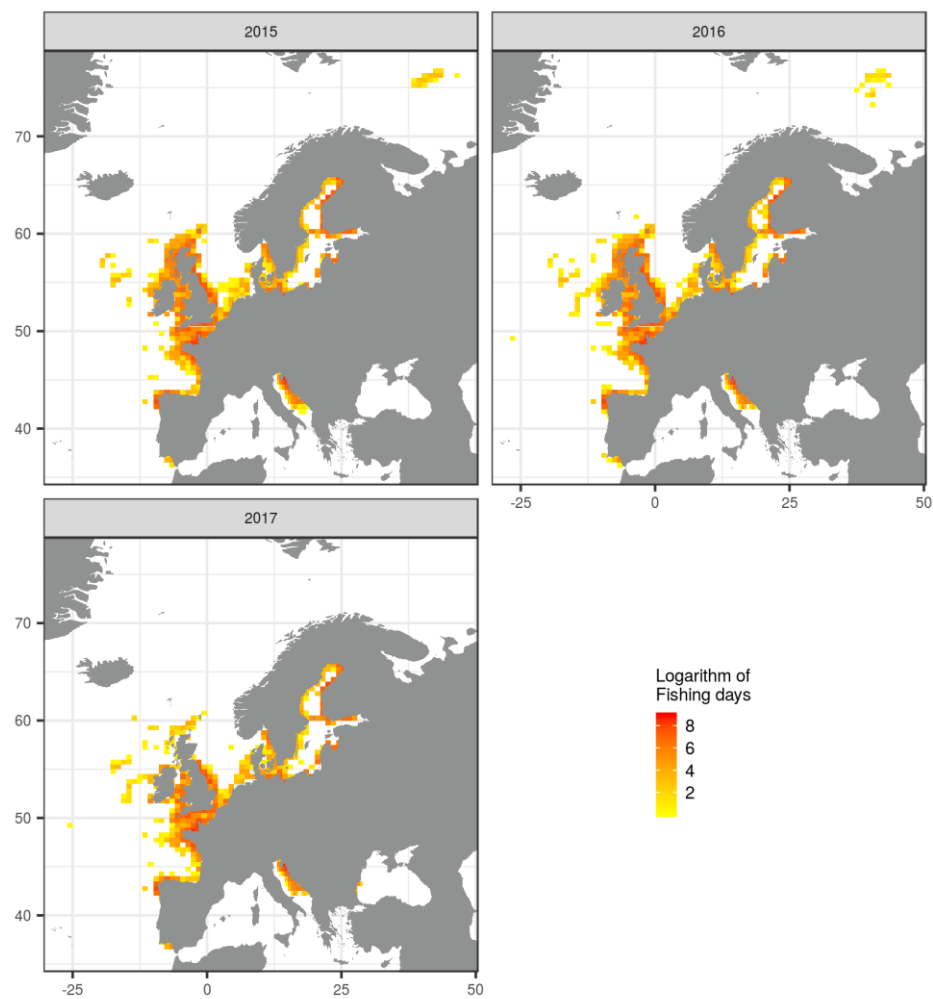


*Beam trawlers with more than 120mm mesh size*



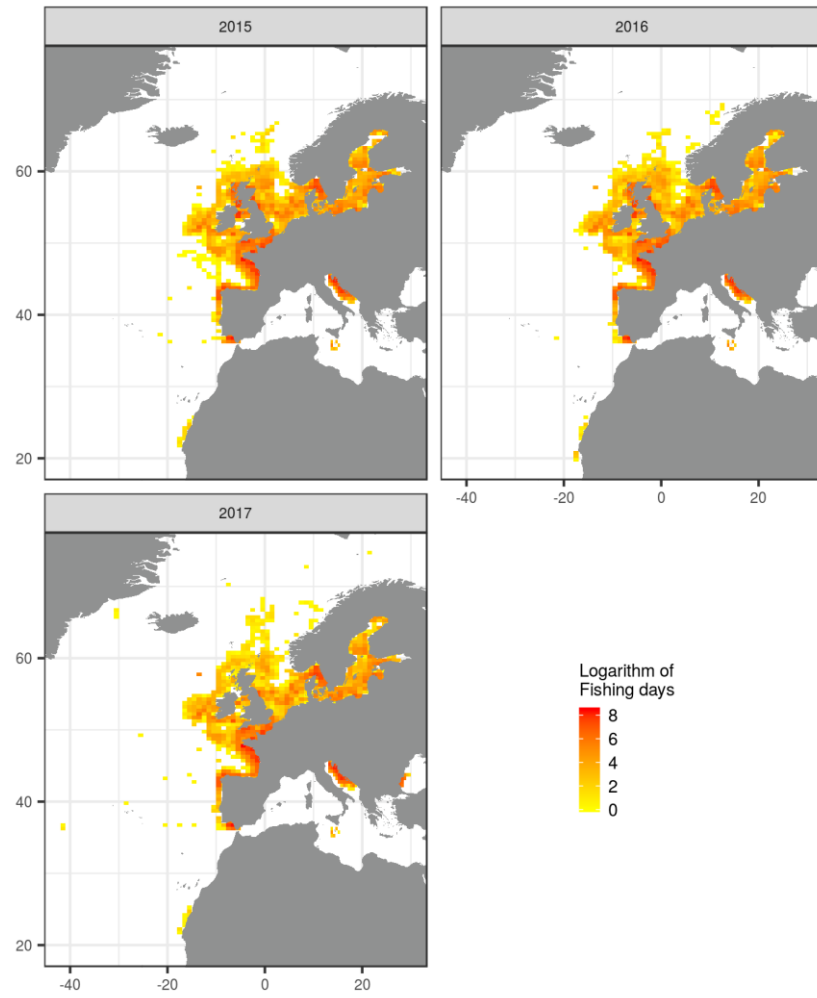
*Beam trawlers with unknown mesh size*



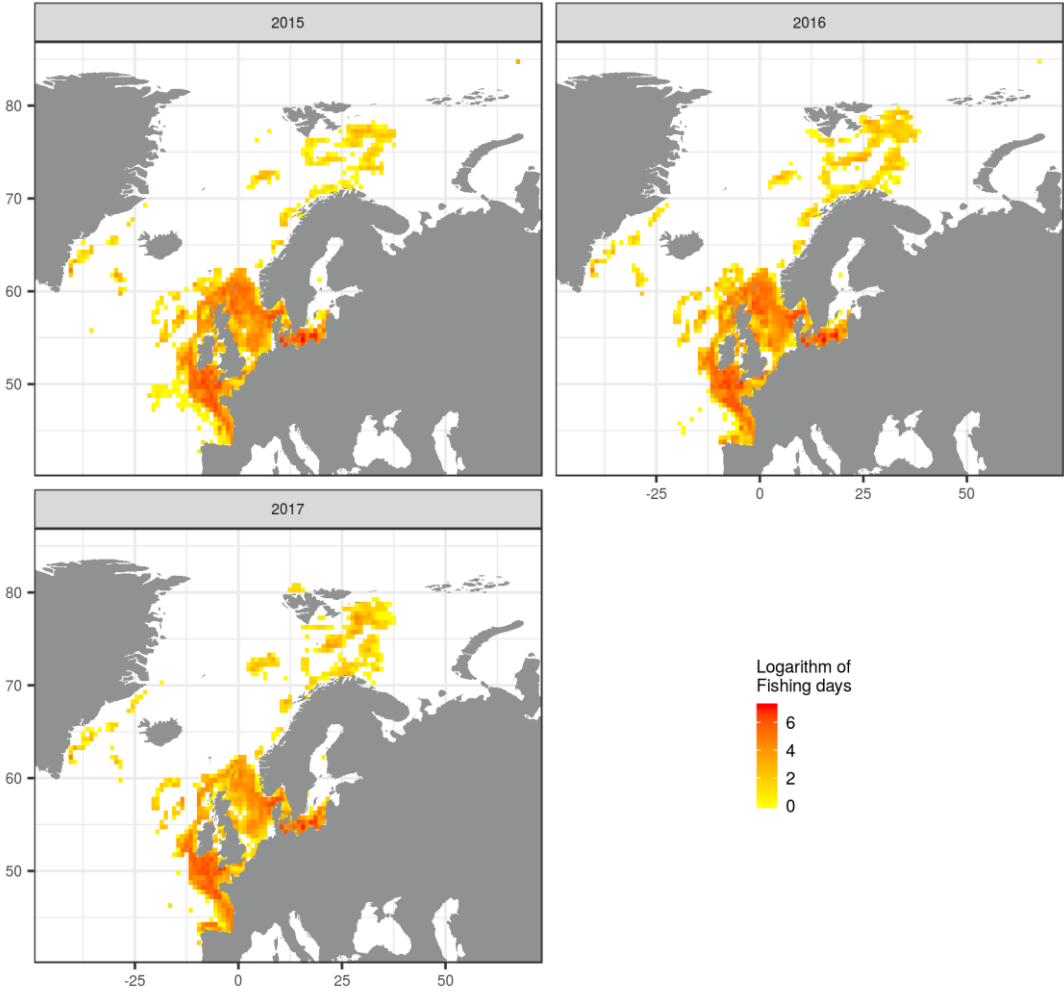




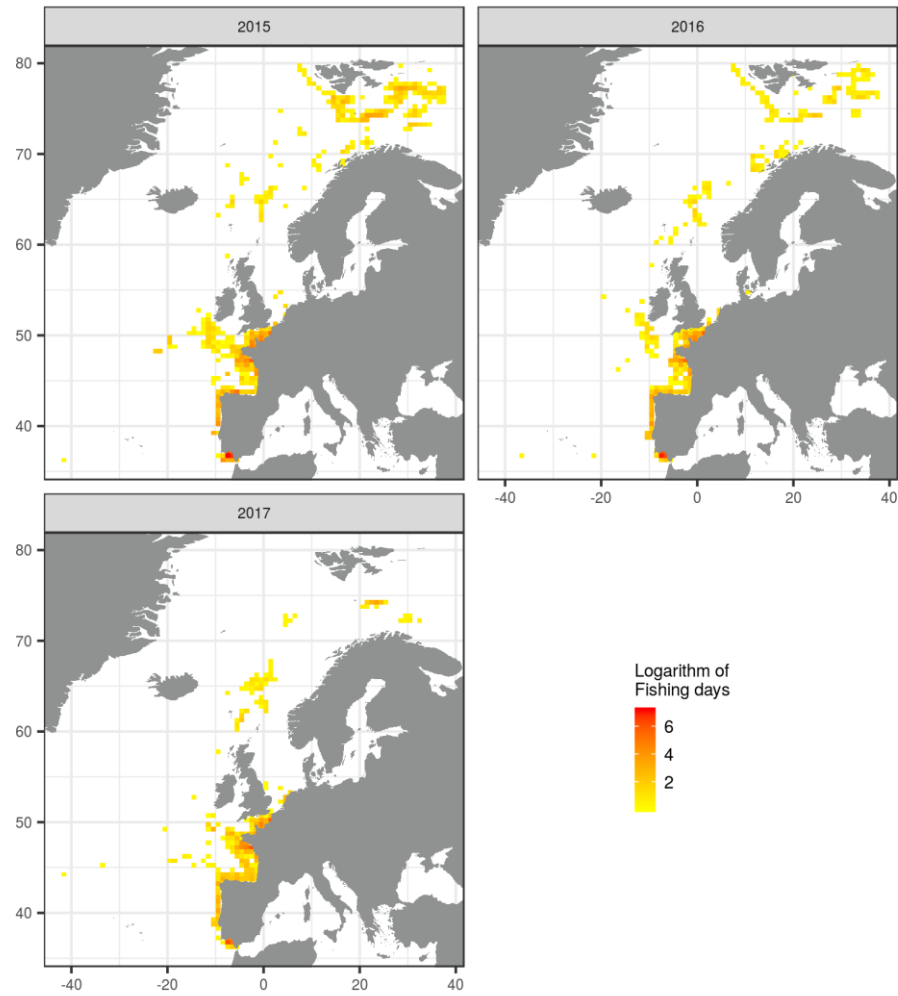
*Trawlers with less than 100mm mesh size*



*Trawlers with more than 100mm mesh size*

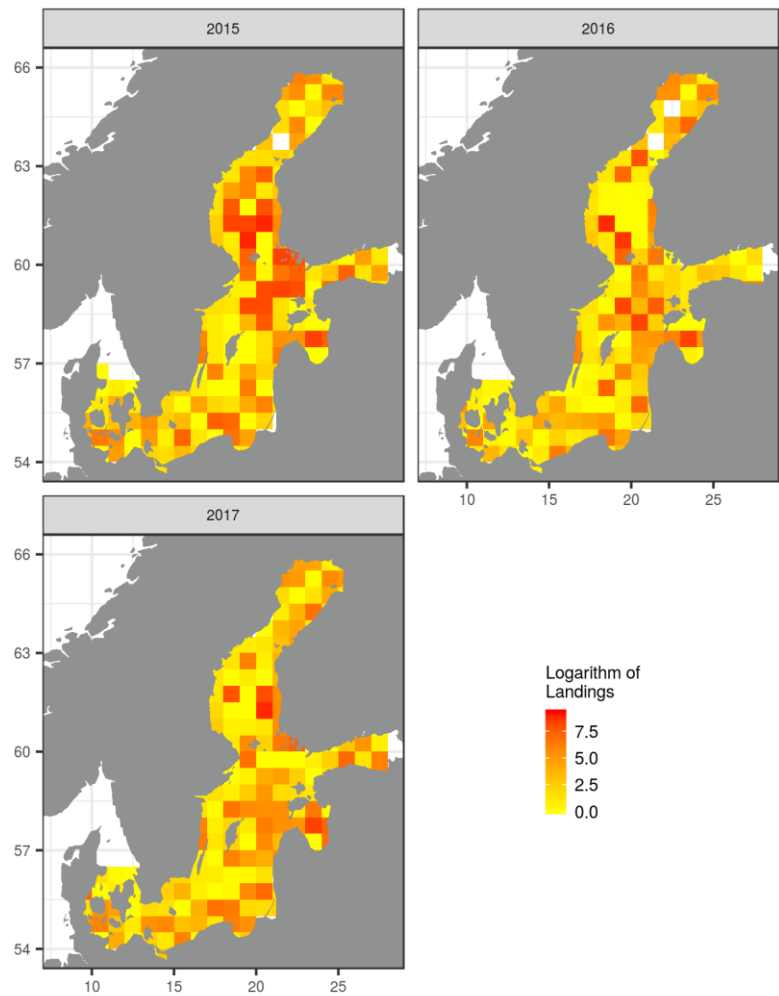


Trawlers with unknown mesh size

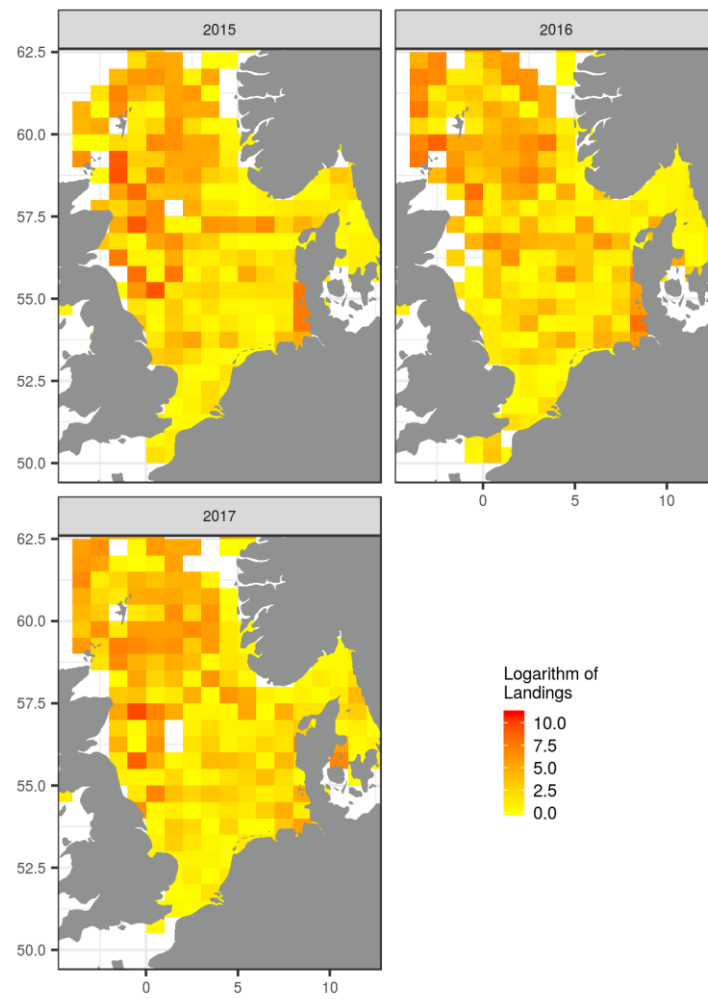


**TOR 3.1.a.1 - Spatial landings maps: main fishing zones**

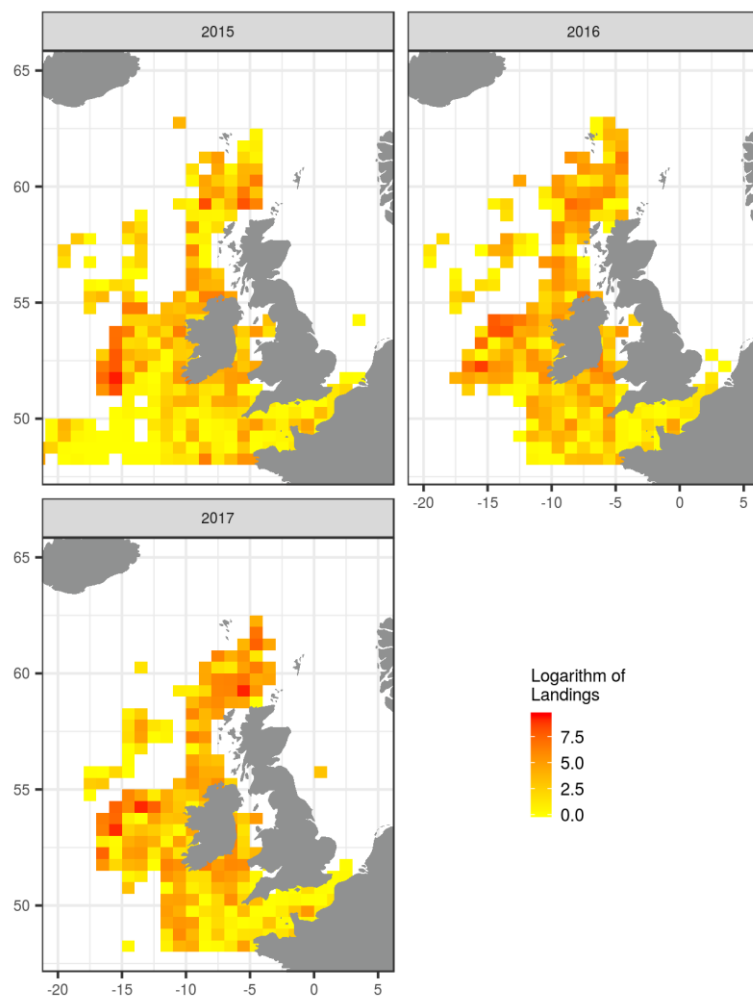
*Baltic Sea*



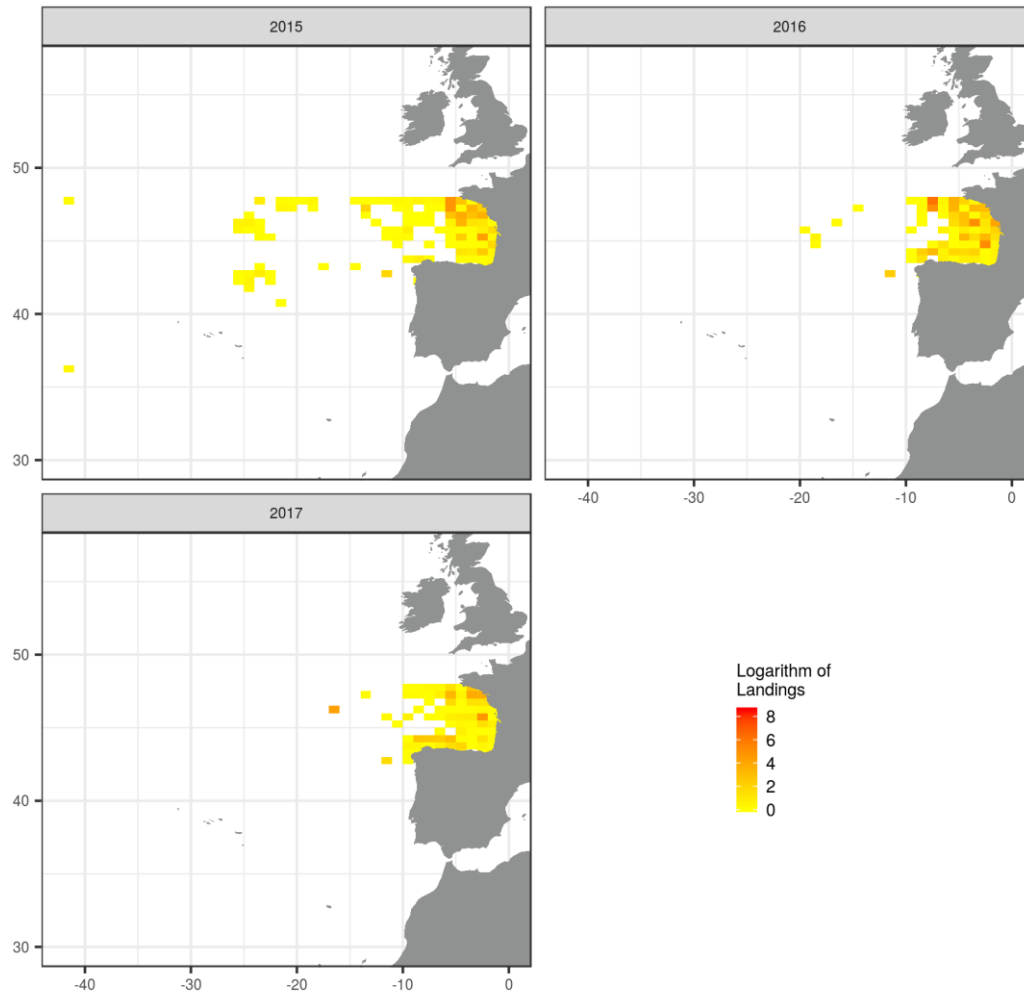
## North Sea



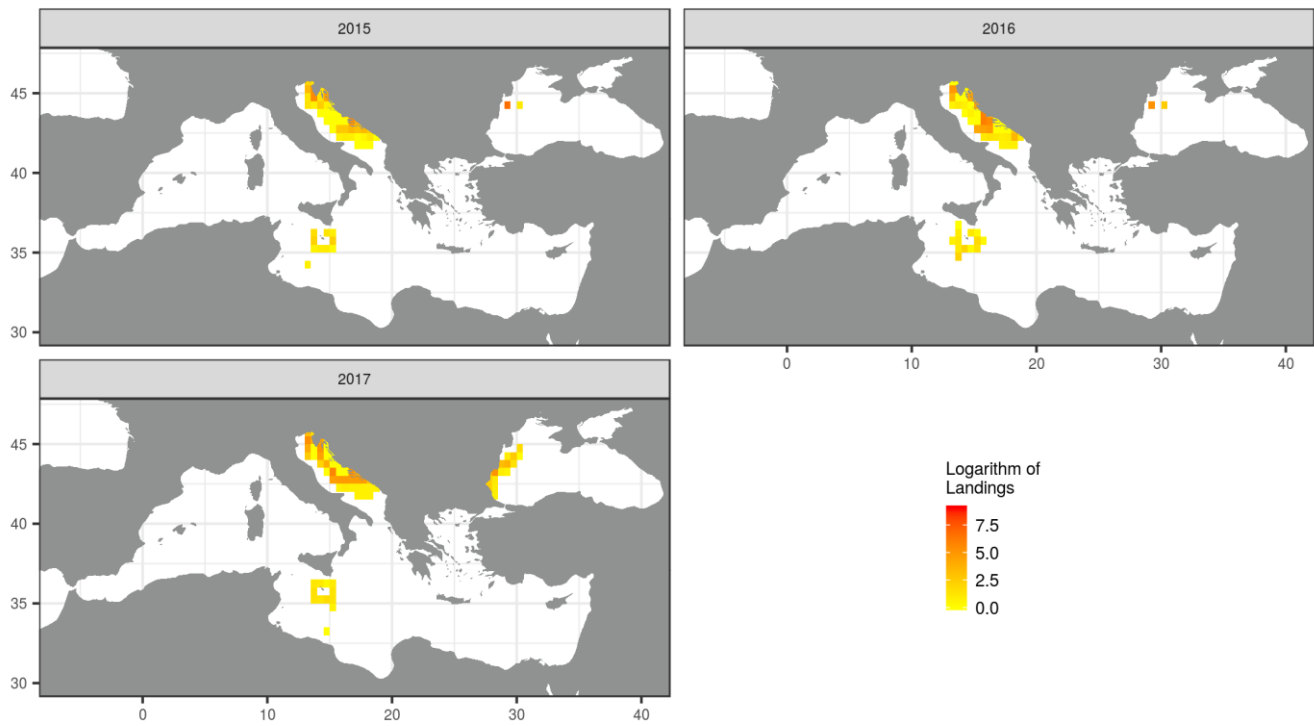
## *North Western waters*



## *South Western waters*

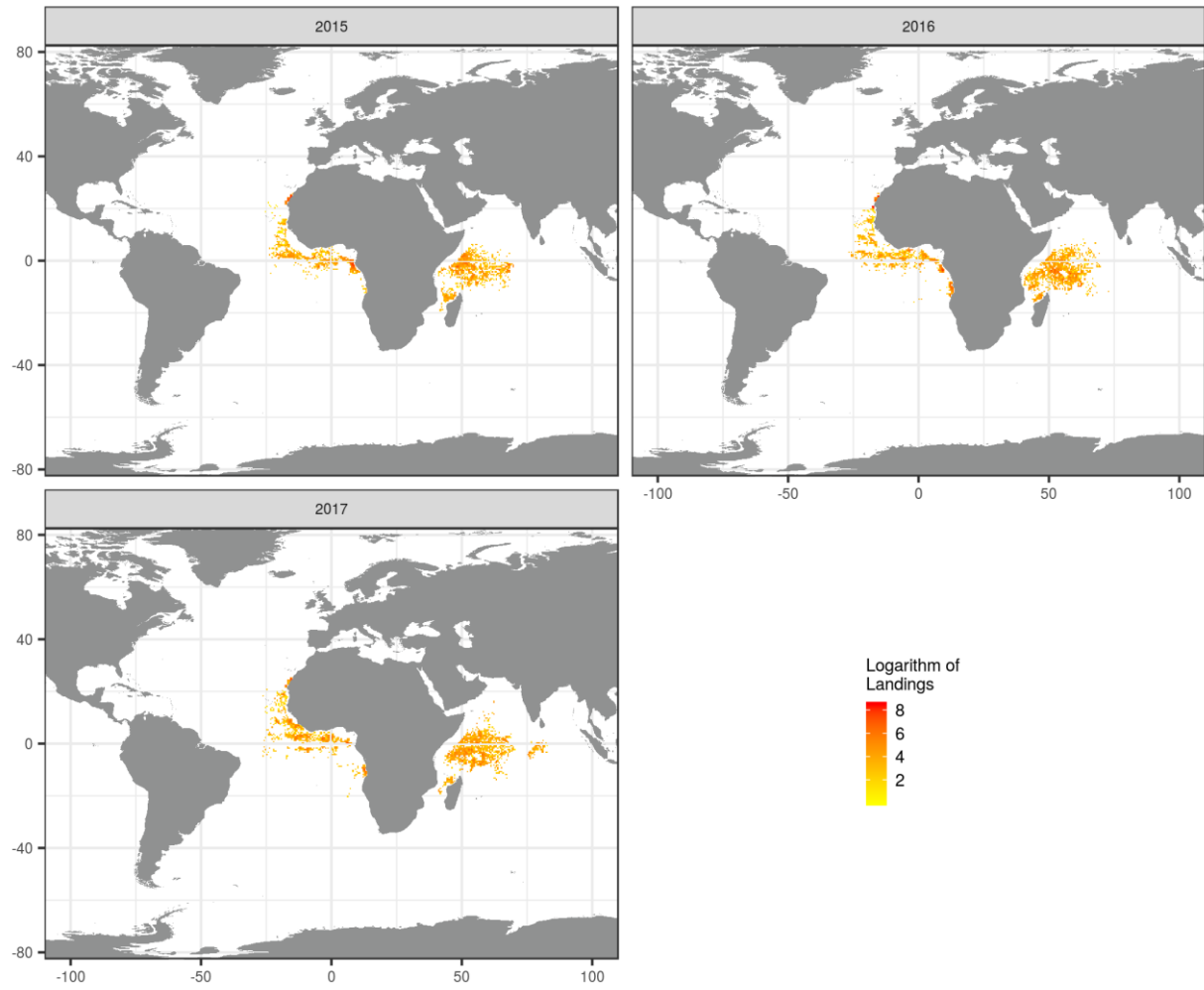


*Mediterranean and Black Sea*



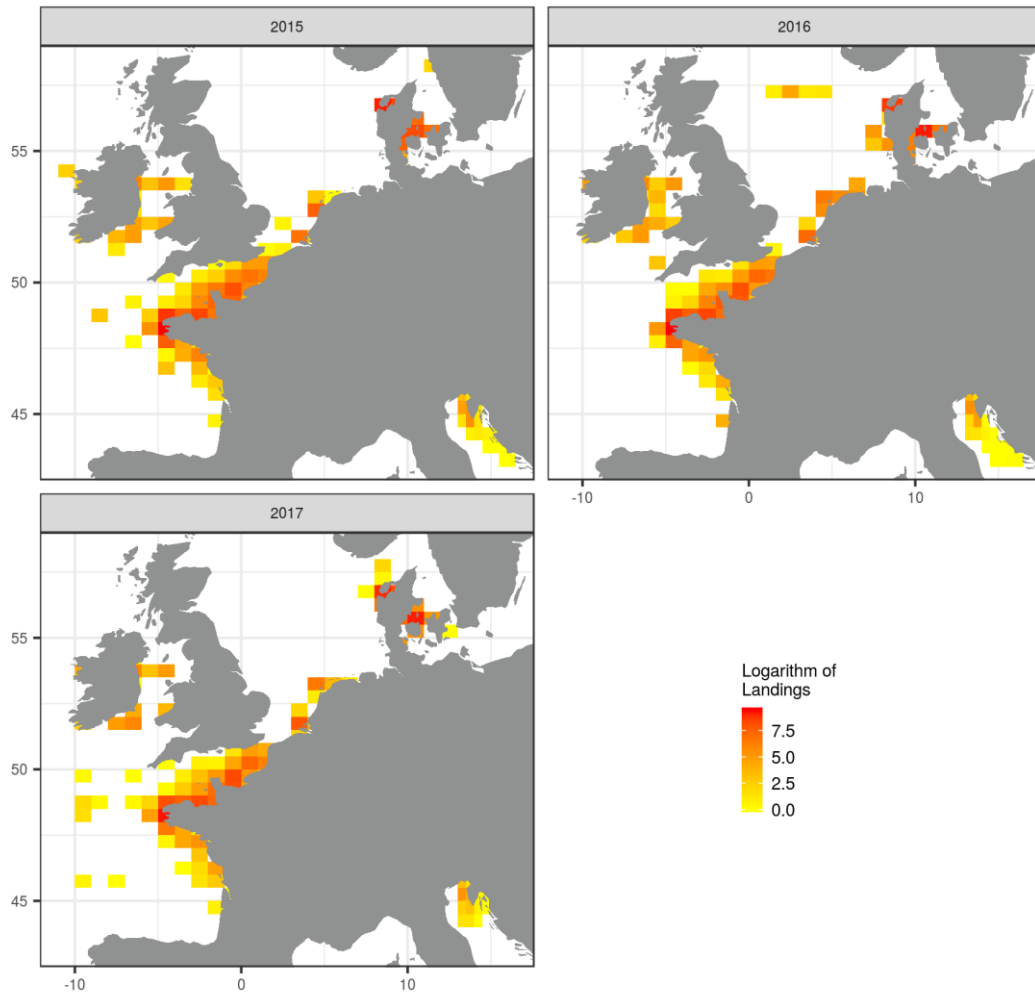


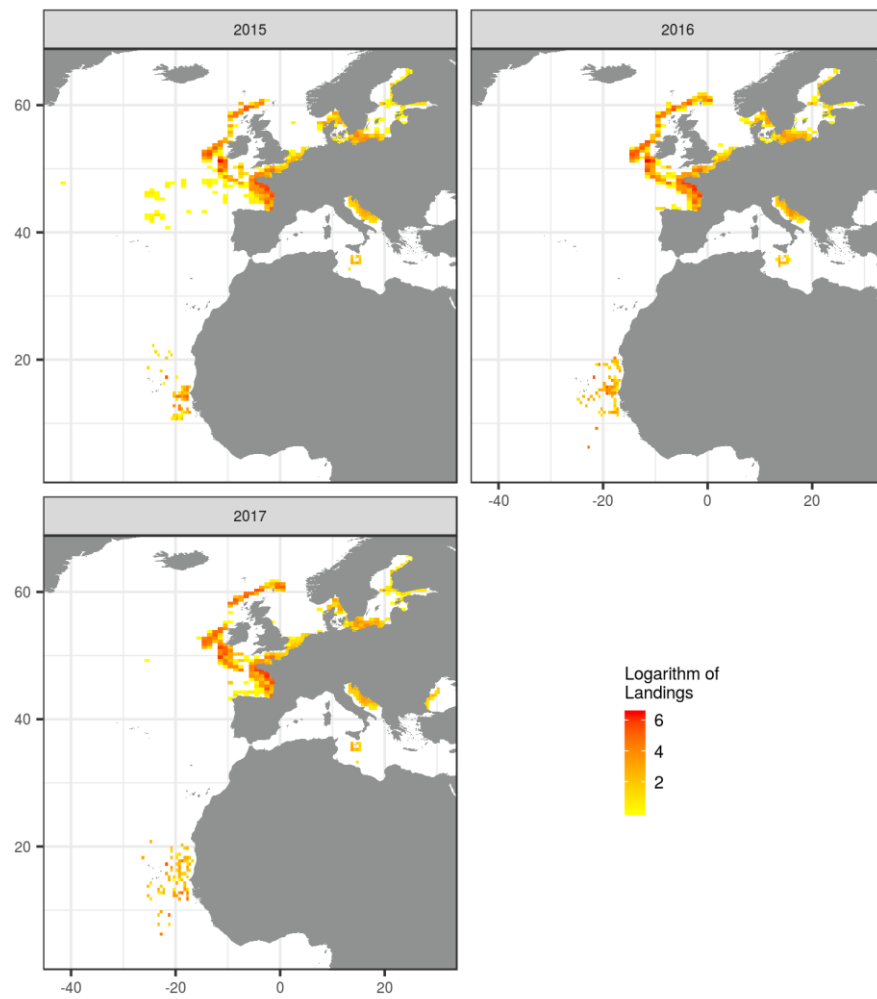
## *Distant waters*



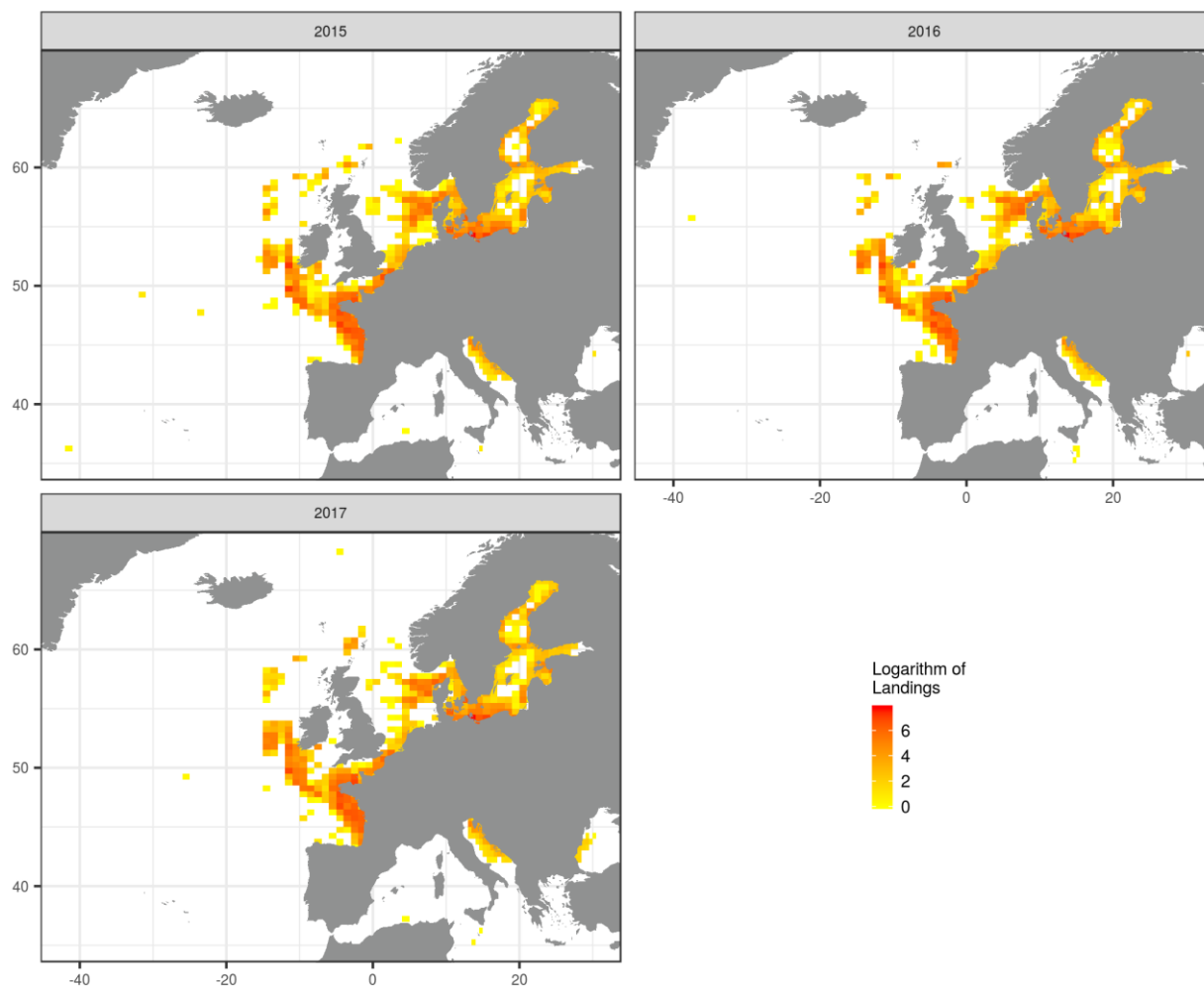
### **TOR 3.1.a.2 - Spatial landings maps: main gear types**

## *Dredges*

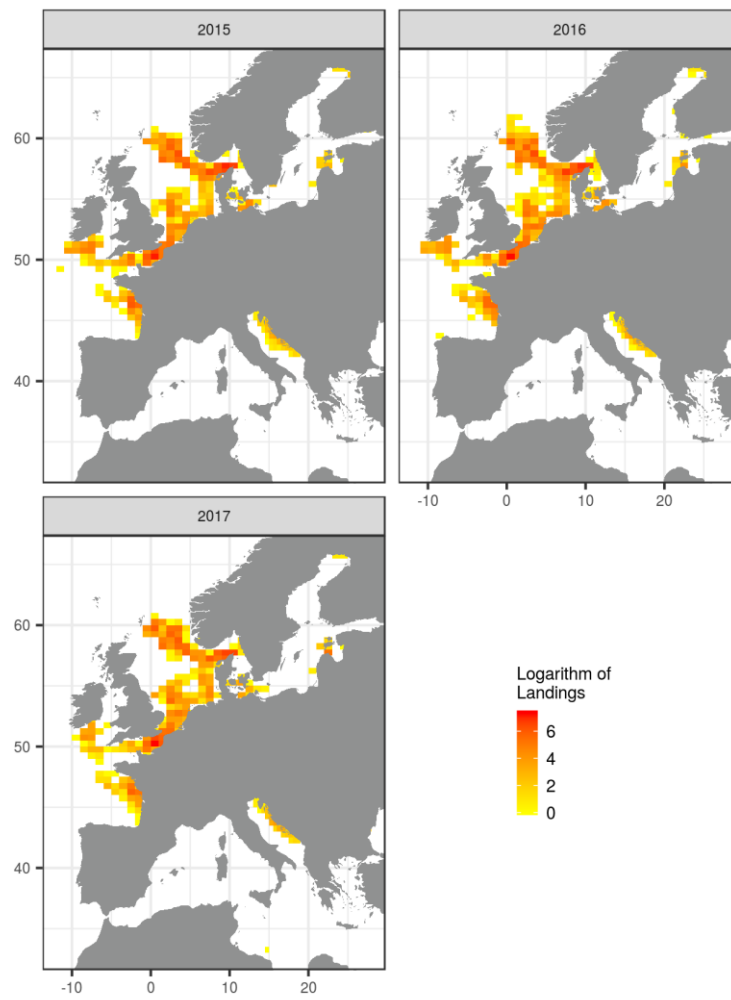




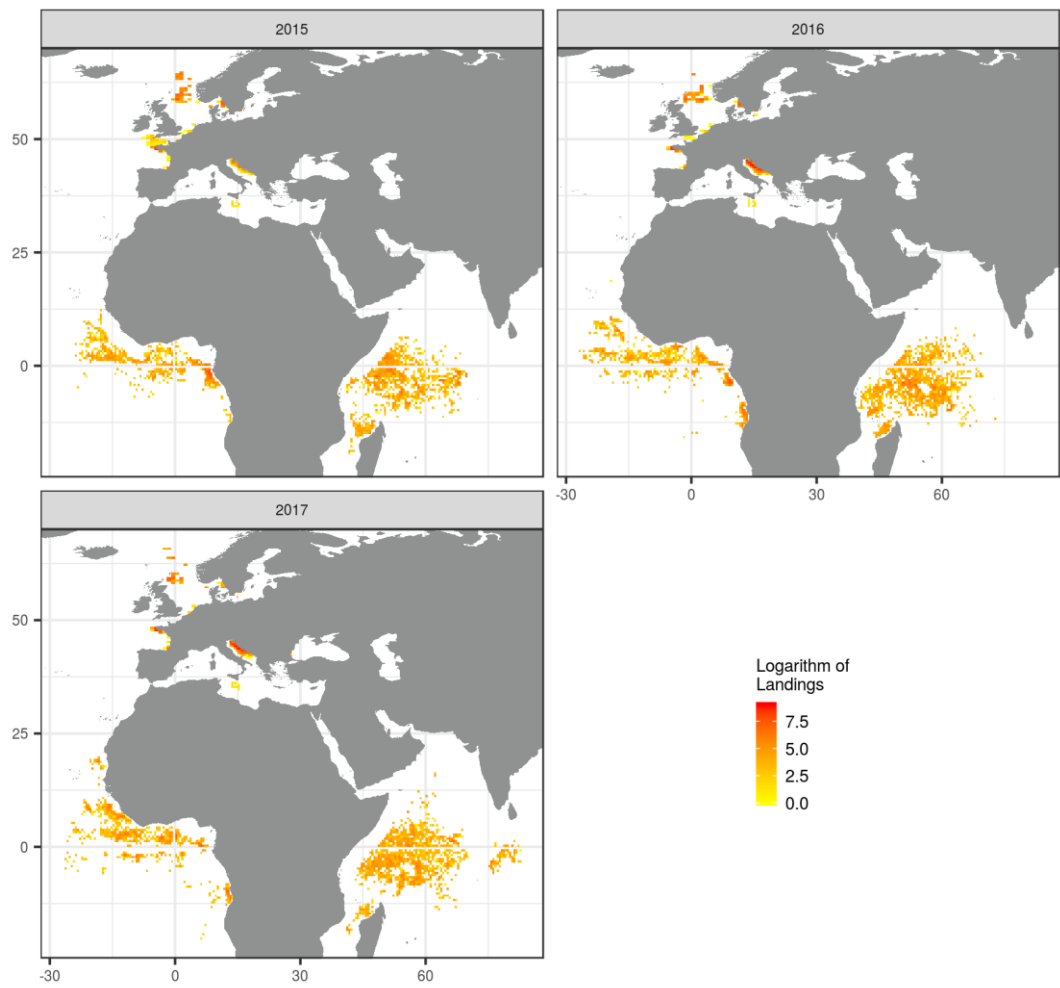
## *Nets*



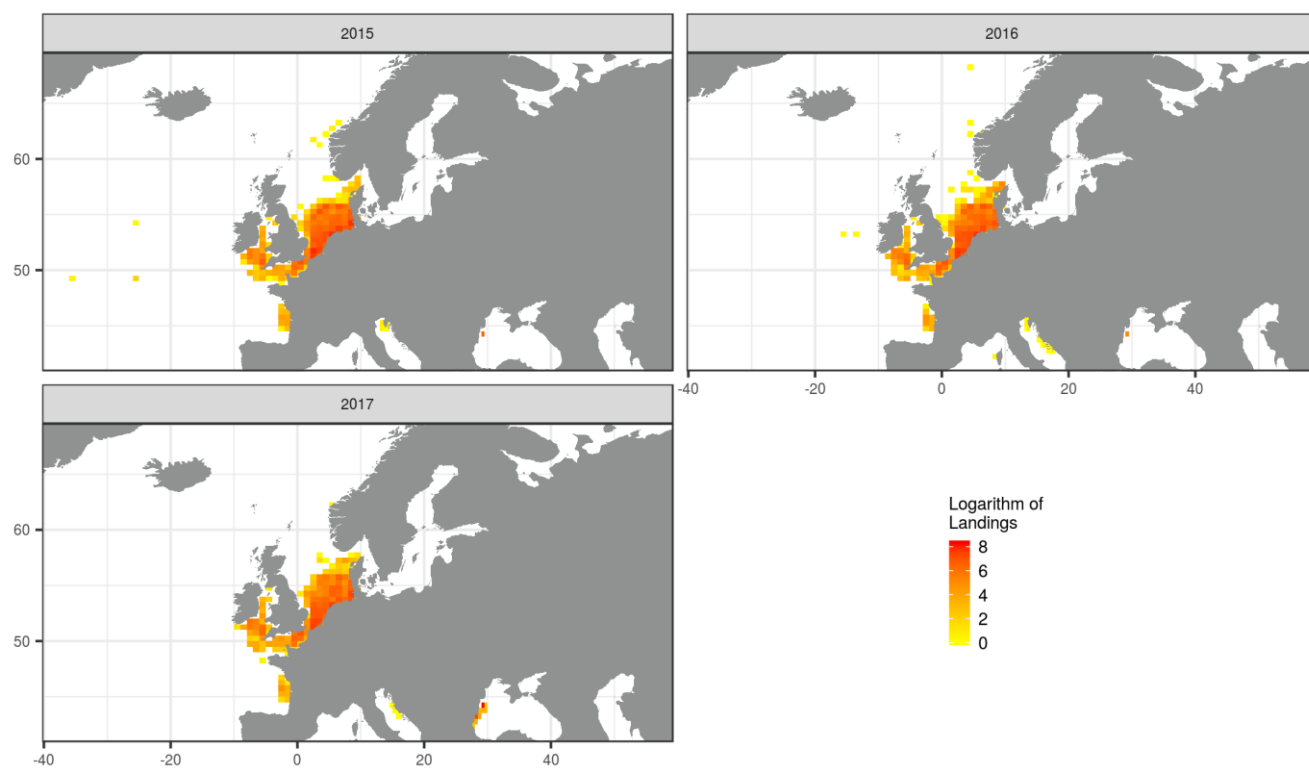
## *Seines*



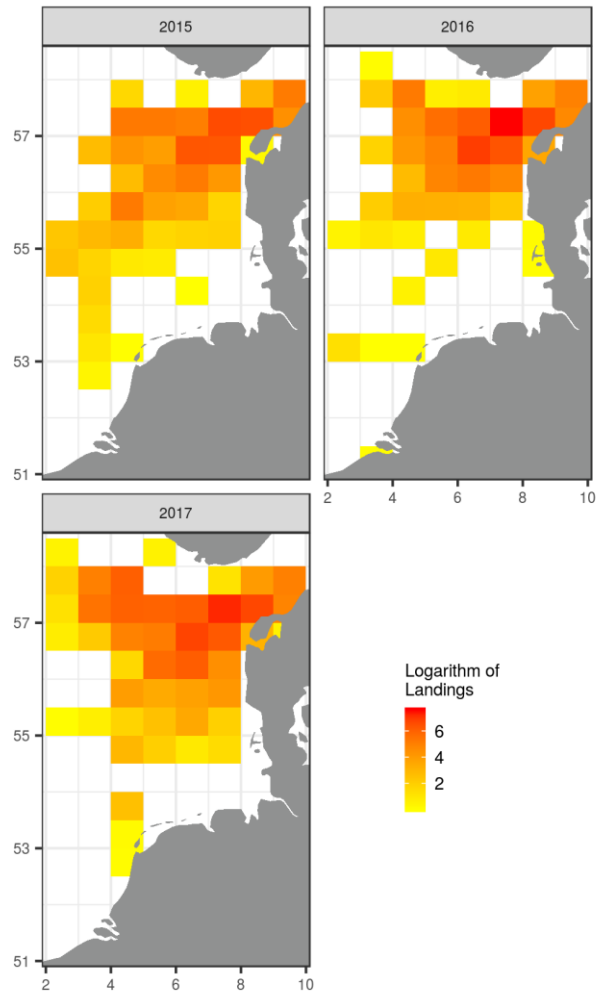
Surrounding nets



*Beam trawlers with less than 120mm mesh size*

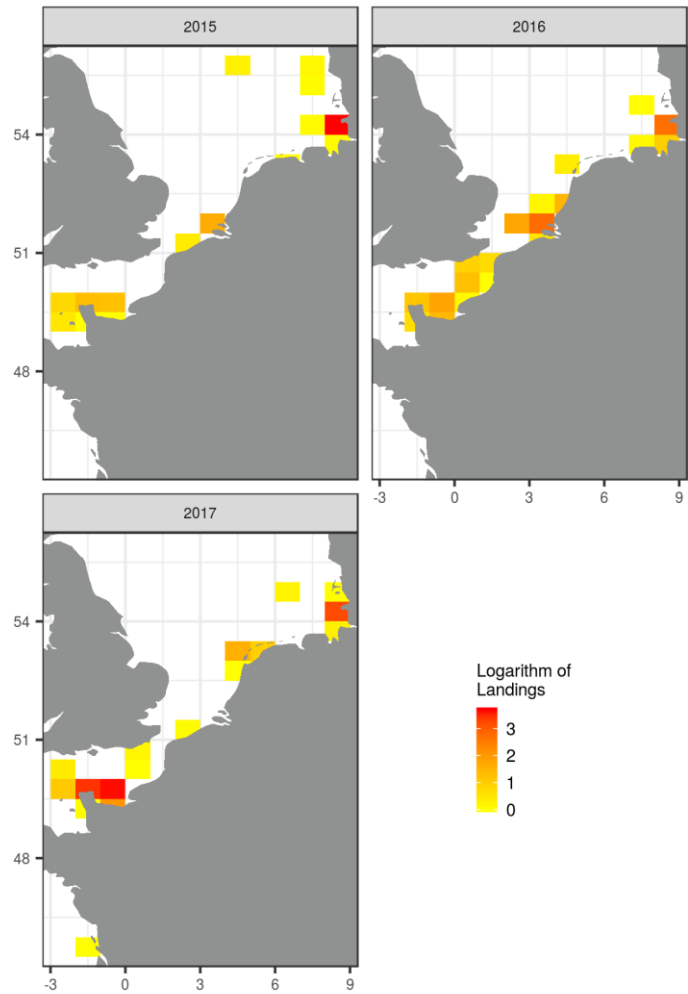


*Beam trawlers with more than 120mm mesh size*

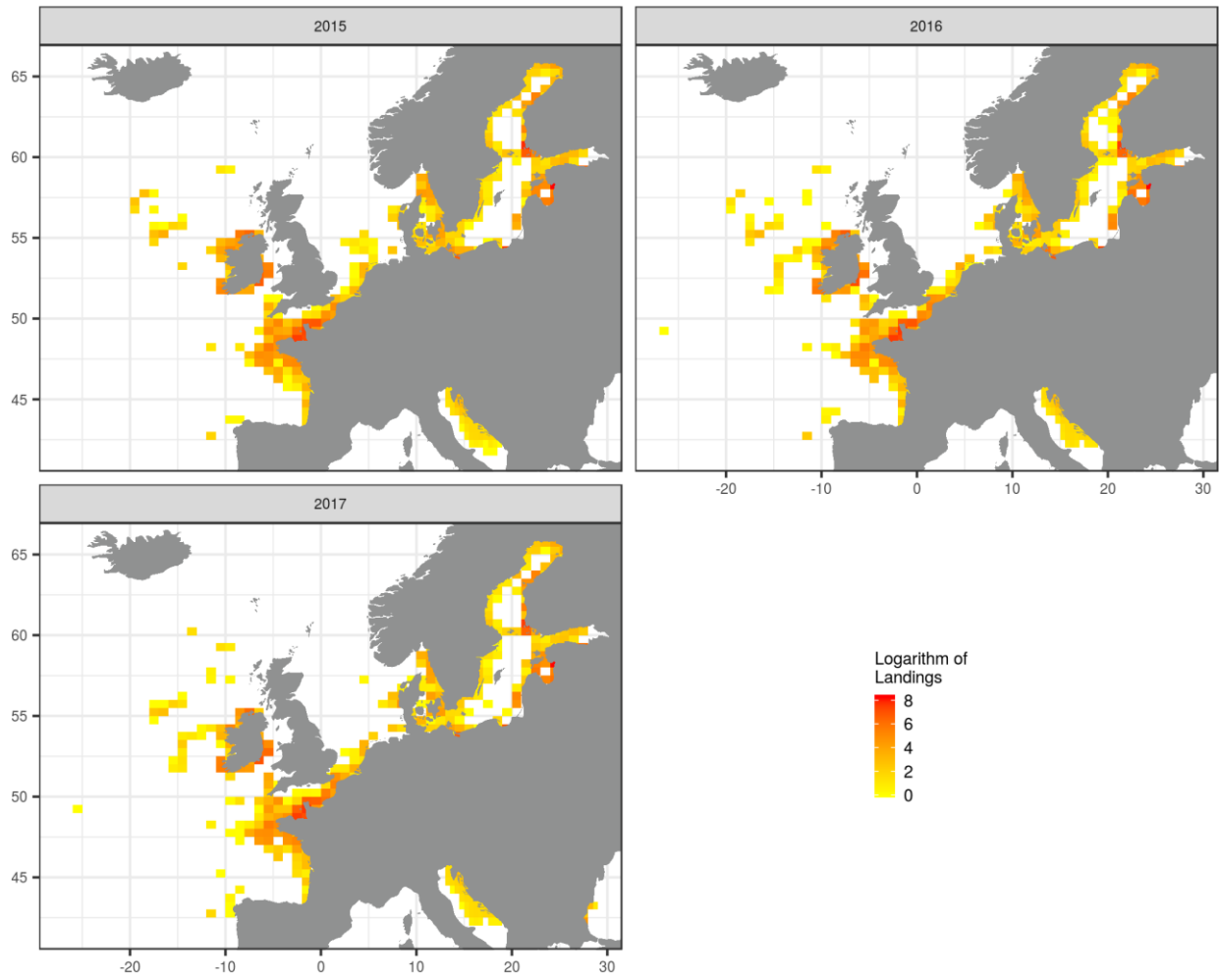




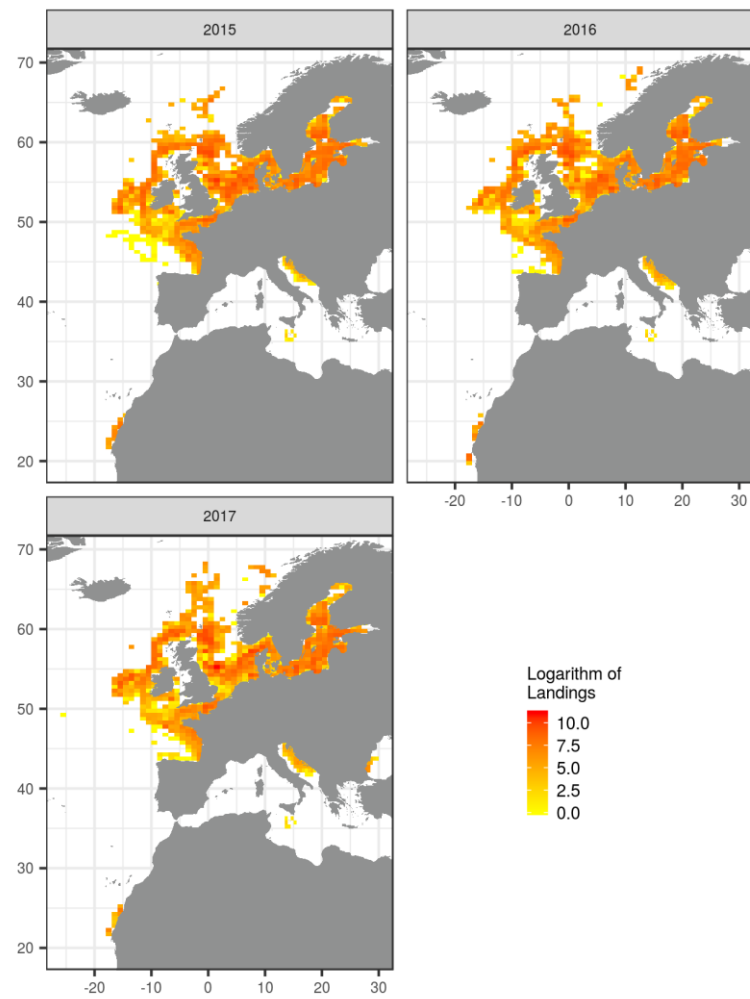
*Beam trawlers with unknown mesh size*



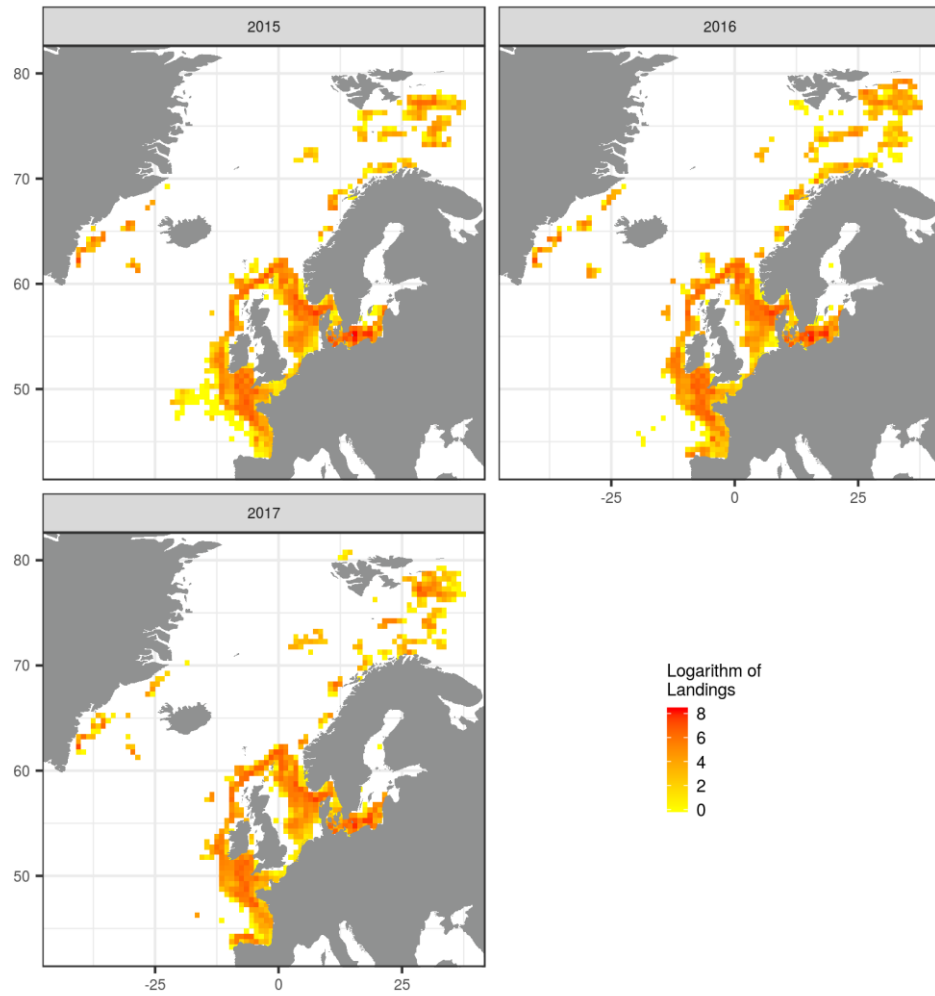
## Traps



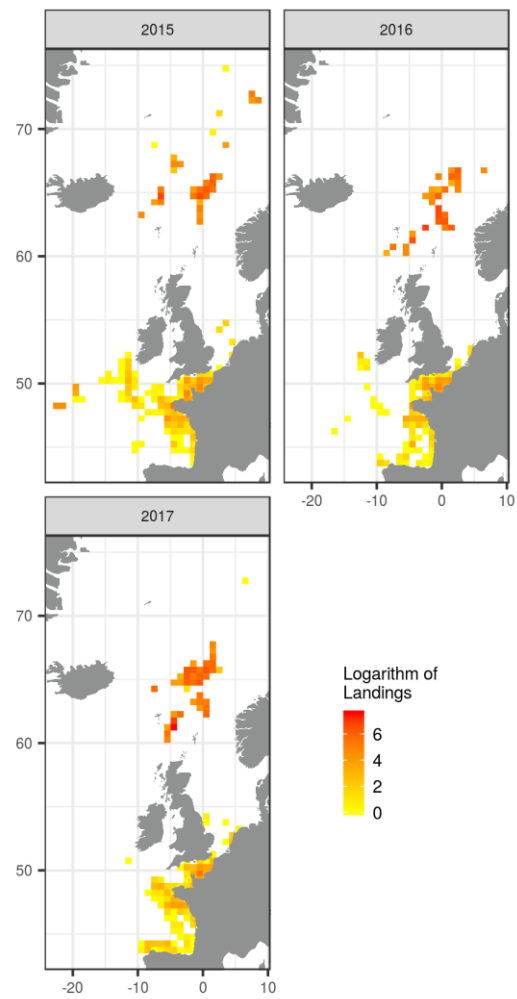
*Trawlers with less than 100mm mesh size*



*Trawlers with more than 100mm mesh size*



*Trawlers with unknown mesh size*



### **TOR 3.2 - Identify areas and fleets where spatial data was not available and propose possible ways forward.**

The spatial effort and spatial landings tables have been checked and cleaned whether applicable. The main issue encountered in producing the maps for the main fishing zones and for the macro gear categories is the incorrect allocation of the coordinates to records. Some countries reported fishing in coordinates (-1,-1); which does not constitute a mistake *per se*, but when the records have been individually checked some were wrong and then deleted. Some countries reported few records on land, and the records were omitted in the final datasets.

#### *Errors in table I and table H: in general and country by country*

The main sources of error were the lack of **Sub region** and incorrect geographical coordinates. The following summary tables report the number of record that were omitted for missing the FAO Sub Region code.

Table 3.2.1 - Number of rows with unknown **Sub region** field in the spatial effort table:

Country	Year	Number of rows
ESP	2015	272
ESP	2016	192
ESP	2017	196
NLD	2015	6
NLD	2016	18
NLD	2017	18

Table 3.2.2 - Number of rows with unknown **Sub region** field in the spatial landings table:

Country	Year	Number of rows
ESP	2015	216
ESP	2016	149
ESP	2017	146
NLD	2015	6
NLD	2016	19
NLD	2017	12

Table 3.2.3 - Number of rows by main fishing zone and country with wrong geographic coordinates or incorrect geographic resolution in the spatial effort table:

Country	Distant W.	Med. & B.S.	North Sea	North W. W.	South W. W.	Total records
DEU	10					10
MLT		420				420
NIR			49	357		406
PRT	1891		103	173	4239	6406
ROU		34				34
SCO			1266	1057	2	2325
SVN		58				58
<b>Total records</b>	<b>1901</b>	<b>512</b>	<b>1418</b>	<b>1587</b>	<b>4241</b>	<b>9659</b>

Table 3.2.4 - Number of rows by main fishing zone and country with wrong geographic coordinates or incorrect geographic resolution in the spatial landings table:

Country	Distant W.	Med. & B.S.	North Sea	North W. W.	South W. W.	Total records
DEU		13				13
ENG	45		3413	4722	63	8243
ESP			116	2138	5457	7711
GBG				93		93
GBJ			6	113		119
IOM			2	233		235
MLT		420				420
NIR			175	1111		1286
PRT	6399	478	188	253	6650	13968
ROU		34				34
SCO	420		3673	3248	49	7390
SVN		58				58
<b>Total records</b>	<b>6877</b>	<b>990</b>	<b>7573</b>	<b>11911</b>	<b>12219</b>	<b>39570</b>

Below are reported the list of countries that have been omitted from the final maps due to errors in the data submission for table I and table h:

### **Greece**

The data submission was limited to 2015 and 2016.

In table I the latitude and longitude are swapped resulting in fishing effort wrongly allocated to the Red Sea.

Table H landings reported a wrong unit of measurement for weight.

### **Portugal**

Table I and Table H was affected by an incorrect geocoding reporting the lower left corner instead of the centroid of the square. The data also reported wrong centroids for the 5 by 5 resolution.

### **Slovenia**

Reported a wrong resolution for table I.

### **Spain**

Table I and Table H were reporting wrong coordinates.

### **Croatia**

Deleted wrong records with -1,-1 after reporting to the correspondent.

### **UK**

Table I for 2017 reported wrong coordinates.

## Confidentiality

The data reported as confidential were omitted from the mapping and when creating the maps for the report every map was checked against outliers and possible additional self-identification cases. Some Member States required their data to be omitted when the area where fishing effort occurred allowed self identification of a individual vessels. Here are reported the main statistics for the confidentiality field in spatial effort table I and spatial landings table H.

Table I – analysis on individual records

Number of confidential records in total by Country with corresponding fishing effort and proportion on the total number of records.

Country	Confidential	Conf. %	Fishing days	Fishing days %
<b>BEL</b>	2076	57.80	6549	14.12
<b>DNK</b>	351	3.24	3647	1.80
<b>IRL</b>	7962	75.50	54339	37.84
<b>ITA</b>	3103	100.00	146072	100.00
<b>LTU</b>	1682	75.97	5320	22.22
<b>MLT</b>	41	16.87	182	6.52
<b>POL</b>	1092	34.06	1825	0.92

Number of confidential records in total by Country and by Year with corresponding fishing effort and proportion on the total number of records.

Country	Year	Confidential	Conf. %	Fishing days	Fishing days %
<b>BEL</b>	2015	642	57.53	1923	12.23
<b>BEL</b>	2016	740	59.01	2269	14.38
<b>BEL</b>	2017	694	56.79	2357	15.84
<b>DNK</b>	2015	111	3.09	840	1.20
<b>DNK</b>	2016	133	3.60	1800	2.59
<b>DNK</b>	2017	107	3.01	1007	1.58
<b>IRL</b>	2015	2634	76.48	17108	37.95
<b>IRL</b>	2016	2640	74.79	18744	37.32
<b>IRL</b>	2017	2688	75.25	18487	38.29
<b>ITA</b>	2016	1420	100.00	65852	100.00
<b>ITA</b>	2017	1683	100.00	80220	100.00
<b>LTU</b>	2015	542	75.49	1803	22.71
<b>LTU</b>	2016	560	77.99	2061	24.41
<b>LTU</b>	2017	580	74.55	1456	19.27
<b>MLT</b>	2015	14	17.72	86	7.87
<b>MLT</b>	2016	20	21.51	62	6.81
<b>MLT</b>	2017	7	9.86	34	4.31
<b>POL</b>	2015	296	30.71	505	0.73
<b>POL</b>	2016	412	36.46	725	1.01
<b>POL</b>	2017	384	34.53	595	1.03



Number of confidential records in total by Country and by Year and Supra region with corresponding fishing effort and proportions.

Country	Year	Supra Region	Confidential	Conf. %	Fishing days	Fishing days %
BEL	2015	27	642	57.53	1923	12.23
BEL	2016	27	740	59.01	2269	14.38
BEL	2017	27	694	56.79	2357	15.84
DNK	2015	27	82	2.30	221	0.32
DNK	2015	21	29	100.00	619	100.00
DNK	2016	27	86	2.36	309	0.45
DNK	2016	21	47	100.00	1491	100.00
DNK	2017	27	76	2.15	139	0.22
DNK	2017	21	31	100.00	868	100.00
IRL	2015	27	2634	76.48	17108	37.95
IRL	2016	27	2640	74.79	18744	37.32
IRL	2017	27	2688	75.25	18487	38.29
ITA	2016	GSA17	301	100.00	36179	100.00
ITA	2016	GSA10	205	100.00	5598	100.00
ITA	2016	GSA11.2	95	100.00	3045	100.00
ITA	2016	GSA16	132	100.00	5813	100.00
ITA	2016	GSA19	104	100.00	1514	100.00
ITA	2016	GSA9	133	100.00	5431	100.00
ITA	2016	GSA11.1	24	100.00	653	100.00
ITA	2016	GSA12	54	100.00	215	100.00
ITA	2016	GSA13	85	100.00	2354	100.00
ITA	2016	GSA14	43	100.00	250	100.00
ITA	2016	GSA15	50	100.00	550	100.00
ITA	2016	GSA18	109	100.00	4120	100.00
ITA	2016	GSA20	4	100.00	4	100.00
ITA	2016	GSA23	21	100.00	44	100.00
ITA	2016	GSA8	17	100.00	56	100.00
ITA	2016	GSA21	24	100.00	10	100.00
ITA	2016	GSA22	18	100.00	15	100.00
ITA	2016	GSA7	1	100.00	1	100.00
ITA	2017	GSA17	318	100.00	38379	100.00
ITA	2017	GSA10	207	100.00	7055	100.00
ITA	2017	GSA11.2	114	100.00	3102	100.00
ITA	2017	GSA13	103	100.00	2632	100.00
ITA	2017	GSA16	148	100.00	8767	100.00
ITA	2017	GSA18	142	100.00	7376	100.00
ITA	2017	GSA19	124	100.00	2869	100.00
ITA	2017	GSA9	160	100.00	7691	100.00
ITA	2017	GSA12	77	100.00	310	100.00
ITA	2017	GSA11.1	20	100.00	549	100.00
ITA	2017	GSA14	46	100.00	343	100.00
ITA	2017	GSA15	58	100.00	902	100.00
ITA	2017	GSA20	27	100.00	8	100.00
ITA	2017	GSA21	54	100.00	41	100.00
ITA	2017	GSA22	28	100.00	39	100.00
ITA	2017	GSA23	23	100.00	44	100.00
ITA	2017	GSA8	24	100.00	110	100.00
ITA	2017	GSA24	3	100.00	1	100.00
ITA	2017	GSA25	7	100.00	1	100.00
LTU	2015	27	422	70.57	1378	18.34

Country	Year	Supra Region	Confidential	Conf. %	Fishing days	Fishing days %
LTU	2015	34	120	100.00	425	100.00
LTU	2016	27	438	73.49	1321	17.15
LTU	2016	34	122	100.00	740	100.00
LTU	2017	27	448	69.35	1045	14.62
LTU	2017	34	132	100.00	412	100.00
MLT	2015	GSA15	14	17.72	86	7.87
MLT	2016	GSA15	20	21.51	62	6.81
MLT	2017	GSA15	7	9.86	34	4.31
POL	2015	27	192	22.33	216	0.31
POL	2015	47	88	100.00	255	100.00
POL	2015	34	16	100.00	34	100.00
POL	2016	27	198	21.62	203	0.29
POL	2016	34	102	100.00	343	100.00
POL	2016	47	66	100.00	140	100.00
POL	2016	87	46	100.00	39	100.00
POL	2017	27	188	20.52	196	0.34
POL	2017	34	100	100.00	150	100.00
POL	2017	47	96	100.00	249	100.00

Table I – analysis on c-squares for additional confidential cases

After removing the confidential records from the dataset the group calculated the number of c-squares with less than three occurrences by country. It was decided by the group that for future dissemination, the data should be checked for situations where fishing occurs in areas where a particular fleet can still be identified.

Number of c-squares non confidential that have less than three records by Country:

Country	Possibly confidential	Conf. %	Fishing days	Fishing days %
BEL	50	3.30	287	0.72
BGR	5	2.89	33	0.21
DEU	986	13.08	1340	0.41
DNK	394	3.76	413	0.21
ENG	556	3.42	560	0.11
ESP	1284	5.73	2266	0.36
EST	54	11.74	156	1.48
FIN	70	2.34	127	0.03
FRA	3209	10.60	3244	0.31
GBG	6	3.23	12	0.85
GBJ	38	15.97	77	6.31
GRC	21	1.36	49	0.03
IOM	48	10.21	87	0.51
IRL	158	6.11	1055	1.18
LTU	32	6.02	35	0.19
LVA	24	1.57	34	0.06
MLT	10	4.95	55	2.11
NIR	198	11.30	308	0.83
NLD	512	5.59	579	0.44
POL	46	2.18	39	0.02
SCO	348	3.90	413	0.19
SWE	244	3.40	326	0.30

Number of c-squares non confidential that have less than three records by Country and by Year:

Country	Year	Possibly confidential	Conf. %	Fishing days	Fishing %	days
BEL	2015	16	3.38		84	0.61
BEL	2016	16	3.11		79	0.58
BEL	2017	18	3.41		125	0.99
BGR	2017	5	2.89		33	0.21
DEU	2015	232	9.48		357	0.32
DEU	2016	404	16.06		584	0.54
DEU	2017	350	13.6		399	0.37
DNK	2015	110	3.16		130	0.19
DNK	2016	152	4.26		156	0.23
DNK	2017	132	3.82		127	0.2
ENG	2015	132	2.45		100	0.06
ENG	2016	218	3.94		220	0.13
ENG	2017	206	3.85		239	0.15
ESP	2015	522	6.62		759	0.37
ESP	2016	300	4.12		527	0.25
ESP	2017	462	6.36		980	0.47
EST	2015	34	19.32		122	3.16
EST	2016	16	11.59		28	0.9
EST	2017	4	2.74		6	0.17
FIN	2015	14	1.45		31	0.03
FIN	2016	12	1.22		11	0.01
FIN	2017	44	4.25		85	0.07
FRA	2015	928	9.35		829	0.24
FRA	2016	1093	10.89		1095	0.31
FRA	2017	1188	11.52		1321	0.38
GBG	2016	2	3.45		3	0.61
GBG	2017	4	6.06		9	1.92
GBJ	2015	14	17.07		20	4.67
GBJ	2016	10	15.15		48	10.74
GBJ	2017	14	15.56		9	2.52
GRC	2015	9	1.18		21	0.03
GRC	2016	12	1.54		28	0.04
IOM	2015	18	11.11		23	0.45
IOM	2016	20	11.76		49	0.79
IOM	2017	10	7.25		15	0.27
IRL	2015	40	4.94		213	0.76
IRL	2016	46	5.17		195	0.62
IRL	2017	72	8.14		648	2.17
LTU	2015	14	7.95		15	0.24
LTU	2016	4	2.53		9	0.14
LTU	2017	14	7.07		11	0.18
LVA	2015	12	2.35		27	0.12
LVA	2016	8	1.51		4	0.02
LVA	2017	4	0.82		3	0.02
MLT	2015	1	1.54		5	0.5
MLT	2016	6	8.22		32	3.77
MLT	2017	3	4.69		18	2.39
NIR	2015	120	13.57		197	1.08
NIR	2016	78	8.99		112	0.58
NLD	2015	168	6.01		211	0.46

Country	Year	Possibly confidential	Conf. %	Fishing days	Fishing %	days
NLD	2016	156	4.78	145		0.33
NLD	2017	188	6.07	222		0.53
POL	2015	4	0.6	2		0
POL	2016	20	2.79	12		0.02
POL	2017	22	3.02	25		0.04
SCO	2015	196	4.51	212		0.2
SCO	2016	152	3.31	201		0.18
SWE	2015	90	3.75	151		0.41
SWE	2016	54	2.23	77		0.2
SWE	2017	100	4.24	98		0.28

Number of c-squares non-confidential that have less than three records by Country, Year and by Supra region:

Country	Year	Supra Region	Possibly confidential	Conf. %	Fishing days	Fishing days %	
BEL	2015		27	16	3.38	84	0.61
BEL	2016		27	16	3.11	79	0.58
BEL	2017		27	18	3.41	125	0.99
BGR	2017	GSA29		5	2.89	33	0.21
DEU	2015		27	224	9.33	347	0.31
DEU	2015		34	8	22.22	10	10.31
DEU	2016		27	306	12.77	418	0.38
DEU	2016		34	8	40	68	61.82
DEU	2016		87	90	100	98	100
DEU	2017		27	344	13.5	396	0.37
DEU	2017		34	6	30	3	6.25
DNK	2015		27	110	3.16	130	0.19
DNK	2016		27	152	4.26	156	0.23
DNK	2017		27	132	3.82	127	0.2
ENG	2015		27	132	2.45	100	0.06
ENG	2016		27	218	3.94	220	0.13
ENG	2017		27	206	3.85	239	0.15
ESP	2015		27	522	6.62	759	0.37
ESP	2016		27	300	4.12	527	0.25
ESP	2017		27	462	6.36	980	0.47
EST	2015		27	34	19.32	122	3.16
EST	2016		27	16	11.59	28	0.9
EST	2017		27	4	2.74	6	0.17
FIN	2015		27	14	1.45	31	0.03
FIN	2016		27	12	1.22	11	0.01
FIN	2017		27	44	4.25	85	0.07
FRA	2015		27	362	5.31	163	0.05
FRA	2015		34	254	23.2	300	18.65
FRA	2015		47	14	58.33	14	58.33
FRA	2015		51	298	15.05	352	12.59
FRA	2016		27	259	3.96	152	0.04
FRA	2016		34	351	28.7	411	24.58
FRA	2016		47	62	60.19	69	36.13
FRA	2016		51	419	19.26	461	16.33

Country	Year	Supra Region	Possibly		Fishing days	Fishing days %
			confidential	Conf. %		
FRA	2016		57	2	100	2
FRA	2017		27	162	2.46	88
FRA	2017		34	366	31.26	539
FRA	2017		47	80	68.38	82
FRA	2017		51	521	21.91	553
FRA	2017		57	59	86.76	59
GBG	2016		27	2	3.45	3
GBG	2017		27	4	6.06	9
GBJ	2015		27	14	17.07	20
GBJ	2016		27	10	15.15	48
GBJ	2017		27	14	15.56	9
GRC	2015	GSA20		4	2.76	16
GRC	2015	GSA22		3	0.56	3
GRC	2015	GSA23		2	2.44	2
GRC	2016	GSA20		4	2.74	12
GRC	2016	GSA22		5	0.91	6
GRC	2016	GSA23		3	3.61	10
IOM	2015		27	18	11.11	23
IOM	2016		27	20	11.76	49
IOM	2017		27	10	7.25	15
IRL	2015		27	40	4.94	213
IRL	2016		27	46	5.17	195
IRL	2017		27	72	8.14	648
LTU	2015		27	14	7.95	15
LTU	2016		27	4	2.53	9
LTU	2017		27	14	7.07	11
LVA	2015		27	12	2.35	27
LVA	2016		27	8	1.51	4
LVA	2017		27	4	0.82	3
MLT	2015	GSA15		1	1.54	5
MLT	2016	GSA15		6	8.22	32
MLT	2017	GSA15		3	4.69	18
NIR	2015		27	120	13.57	197
NIR	2016		27	78	8.99	112
NLD	2015		27	168	6.01	211
NLD	2016		27	156	4.78	145
NLD	2017		27	188	6.07	222
POL	2015		27	4	0.6	2
POL	2016		27	20	2.79	12
POL	2017		27	22	3.02	25
SCO	2015		27	196	4.51	212
SCO	2016		27	152	3.31	201
SWE	2015		27	90	3.75	151
SWE	2016		27	54	2.23	77
SWE	2017		27	100	4.24	98

Table H – analysis on individual records

Number of confidential records in total by Country with corresponding landings and proportion on the total number of records.

Country	Confidential	Conf. %	Landings	Landings %
BEL	3272	68.34	10606	14.03
DNK	351	3.24	10968	0.46
IRL	8284	74.42	267865	37.76
ITA	2459	100	41430	100
LTU	1650	75.97	171681	81.73
MLT	40	16.74	98	18.96
POL	1092	34.06	182290	30.61

Number of confidential records in total by Country and by Year with corresponding landings and proportion on the total number of records.

Country	Year	Confidential	Conf. %	Landings	Landings %
BEL	2015	1032	68.53	3331	13.58
BEL	2016	1130	68.73	3927	14.58
BEL	2017	1110	67.77	3349	13.87
DNK	2015	111	3.09	2993	0.35
DNK	2016	133	3.6	4326	0.67
DNK	2017	107	3.01	3649	0.42
IRL	2015	2754	75.2	94679	40.55
IRL	2016	2756	74.01	94325	41.51
IRL	2017	2774	74.05	78860	31.72
ITA	2016	1116	100	18905	100
ITA	2017	1343	100	22524	100
LTU	2015	522	75.43	42582	76.43
LTU	2016	552	77.97	77983	86.3
LTU	2017	576	74.61	51117	79.9
MLT	2015	14	17.72	68	30.96
MLT	2016	19	20.88	19	12.5
MLT	2017	7	10.14	11	7.43
POL	2015	296	30.71	52253	27.81
POL	2016	412	36.46	59851	30.04
POL	2017	384	34.53	70186	33.67

Number of confidential records in total by Country, Year and by Supra region with corresponding landings and proportion on the total number of records.

Country	Year	Supra Region	Confidential	Conf. %	Landings	Landings %
BEL	2015	27	1032	68.53	3331	13.58
BEL	2016	27	1130	68.73	3927	14.58
BEL	2017	27	1110	67.77	3349	13.87
DNK	2015	27	82	2.3	1305	0.15
DNK	2015	21	29	100	1687	100
DNK	2016	27	86	2.36	1407	0.22
DNK	2016	21	47	100	2920	100

Country	Year	Supra Region	Confidential	Conf. %	Landings	Landings %
DNK	2017	27	76	2.15	1468	0.17
DNK	2017	21	31	100	2181	100
IRL	2015	27	2754	75.2	94679	40.55
IRL	2016	27	2756	74.01	94325	41.51
IRL	2017	27	2774	74.05	78860	31.72
ITA	2016	GSA17	258	100	13728	100
ITA	2016	GSA10	175	100	677	100
ITA	2016	GSA11.2	88	100	377	100
ITA	2016	GSA16	124	100	939	100
ITA	2016	GSA19	54	100	79	100
ITA	2016	GSA9	124	100	1727	100
ITA	2016	GSA11.1	22	100	47	100
ITA	2016	GSA12	34	100	15	100
ITA	2016	GSA13	67	100	317	100
ITA	2016	GSA14	15	100	27	100
ITA	2016	GSA15	33	100	67	100
ITA	2016	GSA18	86	100	895	100
ITA	2016	GSA20	2	100	0	100
ITA	2016	GSA23	16	100	4	100
ITA	2016	GSA8	9	100	2	100
ITA	2016	GSA22	7	100	2	100
ITA	2016	GSA7	1	100	0	100
ITA	2016	GSA29	1	100	0	100
ITA	2017	GSA17	287	100	15497	100
ITA	2017	GSA10	198	100	1092	100
ITA	2017	GSA11.2	114	100	250	100
ITA	2017	GSA13	72	100	454	100
ITA	2017	GSA16	156	100	1404	100
ITA	2017	GSA18	130	100	1468	100
ITA	2017	GSA19	82	100	174	100
ITA	2017	GSA9	141	100	1977	100
ITA	2017	GSA11.1	19	100	30	100
ITA	2017	GSA12	42	100	18	100
ITA	2017	GSA15	41	100	105	100
ITA	2017	GSA14	17	100	35	100
ITA	2017	GSA20	1	100	0	100
ITA	2017	GSA21	5	100	1	100
ITA	2017	GSA22	14	100	5	100
ITA	2017	GSA23	9	100	4	100
ITA	2017	GSA8	12	100	11	100
ITA	2017	GSA25	1	100	0	100
ITA	2017	GSA4	1	100	1	100
ITA	2017	GSA7	1	100	0	100
LTU	2015	27	402	70.28	15303	53.82
LTU	2015	34	120	100	27279	100
LTU	2016	27	430	73.38	16481	57.1
LTU	2016	34	122	100	61502	100
LTU	2017	27	444	69.38	16059	55.53
LTU	2017	34	132	100	35057	100
MLT	2015	GSA15	14	17.72	68	30.96

Country	Year	Supra Region	Confidential	Conf. %	Landings	Landings %
MLT	2016	GSA15	19	20.88	19	12.5
MLT	2017	GSA15	7	10.14	11	7.43
POL	2015	27	192	22.33	6329	4.46
POL	2015	47	88	100	41428	100
POL	2015	34	16	100	4496	100
POL	2016	27	198	21.62	6208	4.26
POL	2016	34	102	100	30464	100
POL	2016	47	66	100	20429	100
POL	2016	87	46	100	2751	100
POL	2017	27	188	20.52	19852	12.55
POL	2017	34	100	100	12531	100
POL	2017	47	96	100	37803	100

Table H – analysis on c-squares for additional confidential cases

After removing the confidential records from the spatial landings dataset the group calculated the number of c-squares with less than three occurrences by country, by country and year and also by Supra region. It was decided by the group that for future dissemination, the data should be checked for cases where fishing occurs in areas where a particular fleet could still be identified even after removing the confidential records.

Number of c-squares non confidential that have less than three records by Country:

Country	Possibly confidential	Conf. %	Landings	Landings %
BEL	50	3.3	801	1.23
BGR	5	2.91	11	0.19
DEU	982	13	99038	13.92
DNK	394	3.76	115557	4.91
EST	54	3.94	1845	1.01
FIN	70	2.36	2972	0.65
FRA	3014	11.95	126334	8.17
GRC	36	2.79	8133	0.01
IRL	148	5.2	73957	16.75
LTU	30	5.75	1232	3.21
LVA	34	2.45	525	0.28
MLT	10	5.03	16	3.75
NLD	462	5.09	96412	10.22
POL	46	2.18	2321	0.56
SWE	246	3.48	48439	7.84

Number of c-squares non confidential that have less than three records by Country and by Year:

Country	Year	Possibly confidential	Conf. %	Landings	Landings %
BEL	2015	16	3.38	160	0.75
BEL	2016	16	3.11	139	0.6
BEL	2017	18	3.41	502	2.41
BGR	2017	5	2.91	11	0.19
DEU	2015	236	9.63	20467	8.58



Country	Year	Possibly		Landings	Landings %
		confidential	Conf. %		
DEU	2016	394	15.68	50191	21.18
DEU	2017	352	13.57	28380	12.02
DNK	2015	110	3.16	35889	4.24
DNK	2016	152	4.26	35077	5.47
DNK	2017	132	3.82	44591	5.16
EST	2015	36	7.53	1167	1.99
EST	2016	16	3.59	569	0.95
EST	2017	2	0.45	110	0.17
FIN	2015	14	1.46	477	0.32
FIN	2016	12	1.23	51	0.03
FIN	2017	44	4.31	2444	1.58
FRA	2015	950	11.39	33145	6.53
FRA	2016	1018	12.15	44960	8.56
FRA	2017	1046	12.3	48228	9.39
GRC	2015	11	1.95	5306	0.02
GRC	2016	25	3.43	2827	0.01
IRL	2015	36	3.96	7131	5.14
IRL	2016	42	4.34	23955	18.03
IRL	2017	70	7.2	42871	25.26
LTU	2015	12	7.06	287	2.19
LTU	2016	4	2.56	390	3.15
LTU	2017	14	7.14	555	4.31
LVA	2015	20	4.26	269	0.43
LVA	2016	8	1.71	131	0.22
LVA	2017	6	1.33	125	0.19
MLT	2015	1	1.54	2	1.39
MLT	2016	6	8.33	12	8.82
MLT	2017	3	4.84	2	1.32
NLD	2015	170	6.16	34781	11.56
NLD	2016	140	4.31	24225	7.5
NLD	2017	152	4.96	37406	11.7
POL	2015	4	0.6	0	0
POL	2016	20	2.79	714	0.51
POL	2017	22	3.02	1607	1.16
SWE	2015	90	3.78	21755	10.73
SWE	2016	56	2.35	8557	4.37
SWE	2017	100	4.35	18127	8.28

Number of c-squares non confidential that have less than three records by Country, Year and by Supra region:

Country	Year	Supra Region	Possibly		Landings	Landings %
			confidential	Conf. %		
BEL	2015		27	16	3.38	0.75
BEL	2016		27	16	3.11	0.6
BEL	2017		27	18	3.41	2.41
BGR	2017	GSA29		5	2.91	0.19
DEU	2015		27	228	9.48	8.67
DEU	2015		34	8	22.22	8.39

Country	Year	Supra Region	Possibly		Landings	Landings %
			confidential	Conf. %		
DEU	2016	27	294	12.3	21265	10.87
DEU	2016	34	8	40	17574	62.63
DEU	2016	87	92	100	11353	100
DEU	2017	27	346	13.46	27848	12.35
DEU	2017	34	6	30	532	6.17
DNK	2015	27	110	3.16	35889	4.24
DNK	2016	27	152	4.26	35077	5.47
DNK	2017	27	132	3.82	44591	5.16
EST	2015	27	36	7.53	1167	1.99
EST	2016	27	16	3.59	569	0.95
EST	2017	27	2	0.45	110	0.17
FIN	2015	27	14	1.46	477	0.32
FIN	2016	27	12	1.23	51	0.03
FIN	2017	27	44	4.31	2444	1.58
FRA	2015	27	362	5.31	3100	0.76
FRA	2015	34	289	47.3	13696	31.32
FRA	2015	41	3	100	55	100
FRA	2015	51	290	32.44	16225	29.95
FRA	2015	47	6	42.86	69	22.3
FRA	2016	27	256	3.92	3625	0.89
FRA	2016	34	318	51.37	17810	43.03
FRA	2016	41	5	100	234	100
FRA	2016	47	24	42.86	1989	23.83
FRA	2016	51	415	35.41	21302	31.32
FRA	2017	27	162	2.46	1632	0.41
FRA	2017	34	369	59.23	20883	51.47
FRA	2017	41	13	100	371	100
FRA	2017	47	29	48.33	687	13.1
FRA	2017	51	451	37.3	23392	35.79
FRA	2017	57	22	88	1263	89
GRC	2015	GSA20	5	5.32	3250	0.24
GRC	2015	GSA22	5	1.21	1484	0.01
GRC	2015	GSA23	1	1.79	572	0.11
GRC	2016	GSA20	11	8.03	1504	0.06
GRC	2016	GSA22	13	2.55	1293	0
GRC	2016	GSA23	1	1.23	30	0
IRL	2015	27	36	3.96	7131	5.14
IRL	2016	27	42	4.34	23955	18.03
IRL	2017	27	70	7.2	42871	25.26
LTU	2015	27	12	7.06	287	2.19
LTU	2016	27	4	2.56	390	3.15
LTU	2017	27	14	7.14	555	4.31
LVA	2015	27	20	4.26	269	0.43
LVA	2016	27	8	1.71	131	0.22
LVA	2017	27	6	1.33	125	0.19
MLT	2015	GSA15	1	1.54	2	1.39
MLT	2016	GSA15	6	8.33	12	8.82
MLT	2017	GSA15	3	4.84	2	1.32
NLD	2015	27	170	6.16	34781	11.56

Country	Year	Supra Region	Possibly		Conf. %	Landings	Landings %
			confidential				
NLD	2016		27	140	4.31	24225	7.5
NLD	2017		27	152	4.96	37406	11.7
POL	2015		27	4	0.6	0	0
POL	2016		27	20	2.79	714	0.51
POL	2017		27	22	3.02	1607	1.16
SWE	2015		27	90	3.78	21755	10.73
SWE	2016		27	56	2.35	8557	4.37
SWE	2017		27	100	4.35	18127	8.28

### 3.4 TOR 4 - Provide catches, landings and discards data for exemptions in discard plans.

STECF is asked to provide figures for catches, landings and discards, at a level of aggregation corresponding to the fleet, area and gear type as specified in each exemption of each of the discard plans.

Where there is insufficient discard data for the above task, the STECF is asked to provide estimated catches (landings + discards<sup>6</sup>).

The EWG notes that it was impossible to fully answer to the request provided in TOR 4 on the basis of data available in the FDI database. In order to calculate the catch associated to a specific exemption, more detailed data than available in the FDI database would be required. Given that the exemptions show a wide variety of definitions to identify a certain group of vessels (and it cannot be used as a prediction what will happen in future years), a specific data call asking Member States to provide data for each exemption may be a better option than to use data from the FDI- EWG that has to monitor the developments in EU fisheries in general.

The group based the calculation of the unwanted catch by exemption on estimates available in Table A. These estimates are the result of the partitioning (*done by MS, following the conclusion of the STECF Expert Working Group 17-12*) of unwanted catches estimates available in tables C&D into the detailed disaggregated levels specified in table A. 'Approved' / 'scientifically validated' unwanted catch estimates are in tables C&D calculated under the domain (*defined by the MS estimation process and conform with their sampling design*). STECF Expert Working Group 17-12 thus emphasizes the limited meaningfulness behind any partitioned estimates (*'estimates are unlikely to be statistically sound and may be biased because for example of the need to assume equivalent rates of unwanted catch for those strata that were not sampled.'*).

**Regarding the question asked under the ToR4, before drawing final conclusion concerning the calculated unwanted catch for exemptions, the 'scientifically validated' and 'not partitioned' estimates available in tables C&D (including the eventual additional estimates available here; some countries did not proceed to the partitioning and some estimates could not be partitioned in table A). Therefore results of the calculations should be cross checked with biological sampling results provided in Tables C& D<sup>7</sup> and advantageously carefully looked at.**

The EWG has attempted to provide an estimate of different catch fractions for fleets that were granted exemptions from the landing obligation in 2015, 2016 and 2017. In addition estimates for agreed exemptions in 2018 and anticipated for 2019 were also attempted based on data from 2017. The following shortcomings have to be taken into account to avoid misinterpretation of results under TOR 4:

1. The EWG notes that the data call asked for estimates of unwanted catch (BMS + discards) and not for discard estimates. Exemptions are granted specifically for discards and not for unwanted catch that also includes landings below minimum conservation reference size (BMS). Therefore, any estimate provided under TOR4 for unwanted catch of species under the landing obligation cannot be interpreted as discards for e.g., control purposes of de-minimis exemptions.

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<sup>6</sup> 'Discards' are defined here as both discards at sea and landings below minimum conservation reference size and therefore relate to the 'unwanted catch' field in the FDI data tables.

<sup>7</sup> Also, because additional estimates could be available in these tables considering that some estimates may not have been partitioned. Indeed, some countries did not proceed to the partitioning from table C & D into table A.

2. The EWG further notes that providing reliable and robust estimates of catches, i.e. landings and unwanted catch for fleets that are granted exemptions from the landing obligation is problematic. For many of these fleets, estimates are unavailable, because unwanted catch is not sampled, and for those fleets where unwanted catches have been sampled, the achieved sampling coverage is often much lower than required to provide a robust estimate of the true unwanted catch fractions. At best, such estimates are likely to be rather uncertain. Alternatively, official logbook information could be used. However, for most MS and fisheries, the records of unwanted catch fractions (discards + BMS landings) in logbooks are believed to be an unreliable source of information, since the landing obligation is still not fully implemented and major problems with compliance were reported by all experts.

To provide estimated catch fractions for fleets that have not been sampled requires extrapolation of catch samples taken from other fleets which may not be representative of the catch composition of these fleets, because of differences in fishing patterns (where, when and how the fleets fish), target species, catch quota and differences in species and size selectivity etc. A further complication arises when the sampled catch fractions of a particular fleet or fleets relates to only a small proportion of the total catch of the same species by all fleets involved in a fishery. It is impossible to judge whether the estimates of the unwanted catch fractions derived from extrapolation of sampled fleets are likely to be representative of those fleets that are not sampled.

In principle, there is scope for the EWG to use its expert judgement to determine, whether the catch fraction estimates from sampled fleets are likely to be representative of the catches for other fleets. However, in practice, such an assumption may be erroneous because, influence of factors, such as differences between the fleets in fishing pattern, timing of fishing and quota availability are not always known by the EWG. Therefore, the estimates based on extrapolation may be inaccurate. Hence the EWG considers that extrapolating catch fraction estimates for one fleet or fleets to other fleets simply to generate fleet-specific estimates needs to be carefully considered and be restricted to fleets likely to have similar catch compositions.

Nevertheless, in addressing this request, the EWG attempted to provide estimates of catch fractions for those fleets for which no sample estimates were provided under the data call. In doing so, the EWG has adopted the following selection criteria:

**For all areas apart from the Mediterranean Sea (area 37)**

year, quarter, species, sub\_region, gear\_type, mesh\_size\_range, target\_assemblage, specon\_tech

**For the Mediterranean Sea (area 37)**

year, quarter, species, sub\_region, metier, specon\_tech

**Estimation of unwanted catch rates by fisheries and raising of unwanted catch for non-sampled fisheries**

Let the following notation be: UC=unwanted catch, L= landings, *snf* = national fishery with an Unwanted catch value from 0 to X, *unf* = non-sampled fishery without an unwanted catch value.

The available landings and unwanted catch are aggregated (summed) over fisheries

- for all areas apart from the Mediterranean Sea, by year, quarter, species, sub\_region, gear\_type, mesh\_size\_range, target\_assemblage, specon\_tech
- for the Mediterranean Sea, by year, quarter, species, sub\_region, metier, specon\_tech

and mean Unwanted catch rates UCR are calculated:

$$UCR = \frac{\sum_{snf} UC_{snf}}{\sum_{snf} (L_{snf} + UC_{snf})} \quad \text{if} \quad UC_{snf} \geq 0 \quad \text{and with} \quad L_{snf} + UC_{snf} > 0$$

Fisheries specific unwanted catch amounts are then calculated if no unwanted catch information is available by

$$UC_{unf} = \frac{L_{unf} \cdot UCR}{(1 - UCR)} \quad \text{where } UC_{unf} \text{ is null (empty)}$$

Fisheries without any unwanted catch information, i.e. no average UCR could be estimated, remain without any unwanted catch estimation as no quantitative information is available.

The EWG attempted to provide unwanted catch estimates for those fleets and species that were not sampled. Only 24% (278,972) of the total number of records (1,168,486) contained sample estimates for unwanted catch. Using the adopted criteria for providing unwanted catch estimates for unsampled fleets (see above), estimates for a further 36,314 records were derived (3% of the total records), leaving still 853,200 records (73% of the original records) with no estimates.

The EWG also notes that in the original 24% (278,972) records with sampled estimates, 56% (156,464) were zeros and only 44% (122,508) had values different from zero.

Furthermore, the EWG identified that the sample estimates for unwanted catches provided by Spain, Ireland, Italy, Greece and France in Table A were erroneous or not provided, and therefore were not used to providing unwanted catch estimates for those fleets and species that were not sampled.

Taking into account the substantial issues mentioned above, the EWG took the decision that it would be grossly misleading to estimate the unwanted catch fraction for those catches that were not sampled. Consequently, the unwanted catch estimates given in Table A and for those fleets granted exemptions from the landing obligation are provided for only those fleets for which Member States provided sample estimates. "

3. The EWG also notes that in the results table, the codes used for filtering the database are provided and these have to be checked and compared to the ones defined in exemptions to avoid a misinterpretation of results.

Given the aggregation level of the data in the FDI database, it was impossible to filter the database to the exact fishing tactic used in the various exemptions. For example, the mesh size categories specified in the FDI database often do not exactly match those defined in a certain exemptions. Also area definitions in exemptions were sometimes too detailed (e.g., areas up to a certain longitude or latitude) and did not exactly match the aggregation level of the FDI database.

4. The EWG notes that it was sometimes unclear which gear types are under a certain exemption. For example, a large part of *Nephrops* catches is made with gear type OTT in division 3a. However, the discard plans only mention OTB and TBN as gear codes in exemptions for *Nephrops*. In other exemptions for demersal, OTT is mentioned explicitly next to OTB and TBN suggesting that OTT would have been mentioned if catches with OTT are included under a certain exemption. Nevertheless, it is open to interpretation whether TBN (*Nephrops* trawls, an old gear code hardly used in current logbooks) may also contain OTT. To avoid speculations the EWG only used gear codes mentioned explicitly under a certain exemption for filtering the database (i.e. excluding OTT).

5. The EWG further notes that all shortcomings in data quality and coverage identified under TOR 1 -3 also apply to TOR 4.

The tables below summarize the discard plans applicable for 2015-2018 in the different regions and landings and unwanted catch reported by MS to FDI data call for the fleets under exemptions.

### 3.4.1 *Baltic discard plans for 2015-2018*

**Table 3.4.1.1. Baltic discard plans for 2015.**

		2015												
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size (Reg.)	Mesh size	Vessel lenght	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Survivability	1396/2014, Art.2	Baltic (IIIb-d)	yes	trap nets- creels/pots-fyske nets-pound nets		FPO-FYK-FPN	All	All	All	All	All	Salmon	SAL	-
	1396/2014, Art.2		yes	trap nets- creels/pots-fyske nets-pound nets		FPO-FYK-FPN	All	All	All	All	All	Cod	COD	-
MCRS	1396/2014, Art.3	Baltic (IIIb-d)	no	all	all	all	all	all	all	all	all	Cod	COD	35 cm
	2187/2005, Annex IV	Baltic (IIIb-d), 27.3.d.25- 27.3.d.30 and 27.3.d.32	no	all	all	all	all	all	all	all	all	Salmon	SAL	60cm
	2187/2005, Annex IV	Baltic (IIIb-d), 27.3.d.31	no	all	all	all	all	all	all	all	all	Salmon	SAL	50 cm



**Table 3.4.1.2. Baltic discard plans for 2016.**

2016														
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size (Reg.)	Mesh size	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Survivability	1396/2014, Art.2	Baltic (IIIb-d)	yes	trap nets-creels/pots-fyske nets-pound nets		FPO-FYK-FPN	All	All	All	All	All	Salmon	SAL	-
	1396/2014, Art.2		yes	trap nets-creels/pots-fyske nets-pound nets		FPO-FYK-FPN	All	All	All	All	All	Cod	COD	-
MCRS	1396/2014, Art.3	Baltic (IIIb-d)	no	all	all	all	all	all	all	all	all	Cod	COD	35 cm
	Com(2016)134 Final, Annex VIII	Baltic (IIIb-d), 27.3.d.25-27.3.d.30 and 27.3.d.32	no	all	all	all	all	all	all	all	all	Salmon	SAL	60cm
	Com(2016)134 Final, Annex VIII	Baltic (IIIb-d), 27.3.d.31	no	all	all	all	all	all	all	all	all	Salmon	SAL	50 cm

**Table 3.4.1.3. Baltic discard plans for 2017.**

2017														
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size (Reg.)	Mesh size	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Survivability	1396/2014, Art.2	Baltic (IIIb-d)	yes	trap nets-creels/pots-fyske nets-pound nets		FPO-FYK-FPN	All	All	All	All	All	Salmon	SAL	-
	1396/2014, Art.2		yes	trap nets-creels/pots-fyske nets-pound nets		FPO-FYK-FPN	All	All	All	All	All	Cod	COD	-
MCRS	1396/2014, Art.3	Baltic (IIIb-d)	no	all	all	all	all	all	all	all	all	Cod	COD	35 cm
	Com(2016)13 4 Final, Annex VIII	Baltic (IIIb-d), 27.3.d.22-27.3.d.30 and 27.3.d.32	no	all	all	all	all	all	all	all	all	Salmon	SAL	60cm
	Com(2016)13 4 Final, Annex VIII	Baltic (IIIb-d), 27.3.d.31	no	all	all	all	all	all	all	all	all	Salmon	SAL	50 cm
	Com(2016)13 4 Final, Annex VIII	Baltic (IIIb-d)	no	all	all	all	all	all	all	all	all	Plaice	PLE	25 cm

**Table 3.4.1.4. Baltic discard plans for 2018.**

2018														
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size (Reg.)	Mesh size	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Survivability	2018/211, Art.3.1	Baltic (IIIb-d)	no	trap nets-creels/pots-fyske nets-pound nets		FPO-FYK-FPN	All	All	All			Salmon	SAL	-
	2018/306, Art.3.1			trap nets-creels/pots-fyske nets-pound nets		FPO-FYK-FPN	All	All	All			Cod, Plaice	COD-PLE	-
MCRS	C(2017)8521 Final, Art.3(2)	Baltic (IIIb-d)	no	all	all	all	all	all	all			Cod	COD	35 cm
	2018/2011, Art.3(2)	Baltic (IIIb-d), 27.3.d.25-27.3.d.30 and 27.3.d.32	no	all	all	all	all	all	all			Salmon	SAL	60cm
	2018/2011, Art.3(2)	Baltic (IIIb-d), 27.3.d.31	no	all	all	all	all	all	all			Salmon	SAL	50 cm
	Com(2016)134 Final, Annex VIII	Baltic (IIIb-d)	no	all	all	all	all	all	all			Plaice	PLE	25 cm

**Table 3.4.1.5. Landings and unwanted catch reported by MS to FDI data call for the fleets under exemptions in the Baltic Sea region, 2015-2017**

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
Survivability	1396/2014, Art.2	Baltic (IIIb-d)	FPO-FYK-FPN	All	All	All	All	Salmon	2015	DEU	0.1	0.0	n.a.
									2015	DNK	0.0	0.0	n.a.
									2015	LTU	0.0	0.0	n.a.
									2015	SWE	186.7	0.0	n.a.
									2015	LVA	0.3	0.0	100%
									2015	EST	1.0	0.0	n.a.
									2015	FIN	180.2	13.6	100%
									2015 Total	Total	368.4	13.6	49%
								Cod	2015	DEU	3.9	0.0	n.a.
									2015	DNK	18.7	0.0	n.a.
									2015	LTU	c	c	n.a.
									2015	POL	0.9	0.0	n.a.
									2015	SWE	7.8	0.0	n.a.
									2015	EST	0.6	0.0	n.a.
									2015	FIN	0.1	0.0	n.a.
									2015 Total	Total	35.8	0.0	0%
Survivability	1396/2014, Art.2	Baltic (IIIb-d)	FPO-FYK-FPN	All	All	All	All	Salmon	2016	DEU	0.0	0.0	n.a.
									2016	LTU	0.1	0.0	n.a.
									2016	POL	0.0	0.0	n.a.
									2016	SWE	196.5	0.0	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2016	LVA	0.2	0.0	100%
									2016	EST	1.5	0.0	n.a.
									2016	FIN	177.7	9.8	100%
									2016 Total	Total	376.0	9.8	47%
								Cod	2016	DEU	3.3	0.1	15%
									2016	DNK	7.9	n.a.	n.a.
									2016	LTU	7.9	n.a.	n.a.
									2016	POL	0.5	n.a.	n.a.
									2016	SWE	9.9	n.a.	n.a.
									2016	EST	0.3	n.a.	n.a.
									2016	FIN	0.0	0.0	100%
									2016 Total	Total	29.8	0.1	2%
Survivability	1396/2014, Art.2	Baltic (IIIb-d)	FPO-FYK-FPN	All	All	All	All	Salmon	2017	DEU	0.1	0.0	n.a.
									2017	DNK	0.0	0.0	n.a.
									2017	LTU	0.0	0.0	n.a.
									2017	SWE	155.4	n.a.	n.a.
									2017	LVA	0.3	0.0	100%
									2017	EST	3.7	0.0	n.a.
									2017	FIN	146.1	11.9	100%
									2017 Total	Total	305.6	11.9	48%
								Cod	2017	DEU	0.7	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2017	<b>DNK</b>	<b>16.9</b>	n.a.	n.a.
									2017	<b>LTU</b>	<b>0.1</b>	0.0	n.a.
									2017	<b>POL</b>	<b>1.3</b>	n.a.	n.a.
									2017	<b>SWE</b>	<b>15.8</b>	n.a.	n.a.
									2017	<b>EST</b>	<b>0.1</b>	n.a.	n.a.
									2017	<b>FIN</b>	<b>0.0</b>	0.0	100%
									2017 Total	<b>Total</b>	<b>35.0</b>	0.0	0%

### 3.4.2 North Sea discard plans for 2015-2019

**Table 3.4.2.1. North Sea discard plans for 2015.**

2015														
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size regulation	Mesh size	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	1395/2014 Article 3	IVb-Ivc (only south of 54°)	yes	Midwater trawls (up to 25m)	OTM	OTM	ALL	All	VL0010-VL1012-VL1218-VL1824	ALL	SPF	Mackerel	MAC	3 (of total catches of herring, horse mackerel, mackerel and whiting)
	1395/2014 Article 3		yes	Midwater trawls (up to 25m)	OTM	OTM	ALL	All	VL0010-VL1012-VL1218-VL1824	ALL	SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1395/2014 Article 3		yes	Midwater trawls (up to 25m)	OTM	OTM	ALL	All	VL0010-VL1012-VL1218-VL1824	ALL	SPF	Herring	HER	
	1395/2014 Article 3		yes	Midwater trawls (up to 25m)	OTM	OTM	ALL	All	VL0010-VL1012-VL1218-VL1824	ALL	SPF	Whiting	WHG	
Survivability	1395/2014 Article 2	IV	no	pelagic purse seines		PS	ALL	All	All	ALL	ALL	Mackerel	MAC	-
	1395/2014 Article 2		no	pelagic purse seines		PS	ALL	All	All	ALL	ALL	Herring	HER	-

**Table 3.4.2.2. North Sea discard plans for 2016.**

2016														
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size regulation	Mesh size	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	1395/2014 Article 3	IVb-IVc (only south of 54°)	yes	Midwater trawls (up to 25m)	OTM	OTM	ALL	All	VL0010-VL1012-VL1218-VL1824	ALL	SPF	Mackerel	MAC	2 (of total catches of herring, horse mackerel, mackerel and whiting)
	1395/2014 Article 3		yes	Midwater trawls (up to 25m)	OTM	OTM	ALL	All	VL0010-VL1012-VL1218-VL1824	ALL	SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1395/2014 Article 3		yes	Midwater trawls (up to 25m)	OTM	OTM	ALL	All	VL0010-VL1012-VL1218-VL1824	ALL	SPF	Herring	HER	
	1395/2014 Article 3		yes	Midwater trawls (up to 25m)	OTM	OTM	ALL	All	VL0010-VL1012-VL1218-VL1824	ALL	SPF	Whiting	WHG	
	2015/2440 Article 3 (b)	IV-IIIa-IIIa (EU)	yes	Trammel nets and gill nets	GN, GNS, GND, GNC, GTN, GTR, GEN, GNF	GND-GNS-GNC-GTR-GTN	ALL	All	All	ALL	ALL	Sole	SOL	3
	2015/2440 Article 3 (d)	IV	yes	Beam trawl (TBB)	TBB	TBB	80-119	80D100-100D110-110D120	All	TBBFP	ALL	Sole	SOL	7 (only below MCRS)
	2015/2440 Article 3 (e)	IV-IIIa	Yes	Bottom trawls	OTB-TBN-OTT-TB	OTB-OTT-PTB-TBB	80-99	80D100	All	ALL	ALL	Norway Lobster	NEP	6 (only below MCRS)
	2015/2440 Article 3 (c)	IVc (south of 55-56)	yes	Beam trawl (TBB)	TBB	TBB	80-90	80D100	All	ALL	ALL	Sole	SOL	3.7 (only for sole <19mm)
	2015/2440 Article 3 (a)	IIIa	yes	Bottom trawls (OTB,TBN)	OTB-TBN	OTB	70+	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID35	CRU	Haddock	HAD	2 (combined HAD, NEP of total Nephrops)
	2015/2440 Article 3 (a)		yes	Bottom trawls (OTB,TBN)	OTB-TBN	OTB	70+	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID35	CRU	Sole	SOL	2 (combined HAD, NEP of total Nephrops)
Survivability	1395/2014 Article 2	IV	no	pelagic purse seines		PS	ALL	All	All	ALL	ALL	Mackerel	MAC	-
	1395/2014 Article 2		no	pelagic purse seines		PS	ALL	All	All	ALL	ALL	Herring	HER	-
	2015/2440 Article 2 (b)	IIIa	yes	Bottom trawls (OTB,TBN)	OTB-TBN	OTB	70+	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID35	ALL	Norway Lobster	NEP	-
	2015/2440 Article 2 (c)	IIIa	yes	Bottom trawls (OTB,TBN)	OTB-TBN	OTB	90+	80D100-100D110-110D120-120DXX	ALL	SELTRA	ALL	Norway Lobster	NEP	-
	2015/2440 Article 2 (a)	IV-IIIa	yes	Traps	FPO	FPO	ALL	All	All	All	All	Norway lobster	NEP	-



**Table 3.4.2.3. North Sea discard plans for 2017.**

2017														
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size regulation	Mesh size	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	1395/2014 Article 3	IVb-lvc (only south of 54I)	yes	Midwater trawls (up to 25m)	OTM	OTM	ALL	All	VL0010-VL1012-VL1218-	ALL	SPF	Mackerel	MAC	2 (of total catches of herring, horse mackerel, mackerel and whiting)
	1395/2014 Article 3		yes	Midwater trawls (up to 25m)	OTM	OTM	ALL	All	VL0010-VL1012-VL1218-	ALL	SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1395/2014 Article 3		yes	Midwater trawls (up to 25m)	OTM	OTM	ALL	All	VL0010-VL1012-VL1218-	ALL	SPF	Herring	HER	
	1395/2014 Article 3		yes	Midwater trawls (up to 25m)	OTM	OTM	ALL	All	VL0010-VL1012-VL1218-	ALL	SPF	Whiting	WHG	
	2016/2250 Article 6 (a)	IV-IIIa-lia (EU)	yes	Trammel nets and gill nets	GN, GNS, GND, GNC, GTN, GTR, GEN, GNF	GND-GNS-GNC-GTR-GTN	ALL	All	All	ALL	ALL	Sole	SOL	3
	2016/2250 Article 6 (b)	IV	yes	Beam trawl (TBB)	TBB	TBB	80-119	80D100-100D110-110D120	All	TBBFP	ALL	Sole	SOL	7 (only below MCRS)
	2016/2250 Article 6 (c)	IV-IIa	Yes	Bottom trawls	OTB-TBN-OTT-TB	OTB-OTT-PTB-TBB	80-99	80D100	All	ALL	ALL	Norway Lobster	NEP	6 (only below MCRS)
	2016/2250 Article 6 (ff)	IIIa	Yes	Bottom trawls	OTB	OTB	35+	32D80-80D100-100D110-110D120-120DXX-70S90	ALL	GRID19	CRU	SOL-HAD-WHG	SOL-HAD-WHG	1 (below MCRS combined) of the total annual
	2016/2250 Article 6 (g)	IIIa	Yes	Creels	FPO	FPO	ALL	ALL	ALL	ALL	CRU	SOL-HAD-WHG	SOL-HAD-WHG	0.5 (combined) of NEP, SOL, HAD,
	2016/2250 Article 6 (d)	IIIa	yes	Bottom trawls (OTB,TBN)	OTB-TBN	OTB	70+	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID35	CRU	Haddock	HAD	2 (below MCRS, combined HAD, SOL of total
	2016/2250 Article 6 (d)		yes	Bottom trawls (OTB,TBN)	OTB-TBN	OTB	70+	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID35	CRU	Sole	SOL	2 (below MCRS, combined HAD, SOL of total
Survivability	1395/2014 Article 2	IV	no	pelagic purse seines		PS	ALL	All	All	ALL	ALL	Mackerel	MAC	-
	1395/2014 Article 2		no	pelagic purse seines		PS	ALL	All	All	ALL	ALL	Herring	HER	-
	2016/2250 Article 5	within six nautical miles of the coast in ICES area IVc and outside nursery areas	no	Otter trawls	OTB	OTB	80-99	80D100	VL0010	ALL	ALL	Sole	SOL	
	2016/2250 Article 4 (b)	IIIa	yes	Bottom trawls (OTB,TBN)	OTB-TBN	OTB	70+	32D80-80D100-	All	GRID35	ALL	Norway Lobster	NEP	-
	2016/2250 Article 4 (c)	IIIa	yes	Bottom trawls (OTB,TBN)	OTB-TBN	OTB	90+	80D100-100D110-110D120-120DXX	ALL	SELTRA	ALL	Norway Lobster	NEP	-
	2016/2250 Article 4 (d)	IV	yes	Bottom trawls (OTB,TBN)	OTB-TBN	OTB	80+	70S90-80D100-100D110-110D120-120DXX	ALL	NETGRID	ALL	Norway Lobster	NEP	-
	2016/2250 Article 4 (a)	IV-IIIa	yes	Traps	FPO	FPO	ALL	All	All	ALL	ALL	Norway lobster	NEP	-

**Table 3.4.2.4. North Sea discard plans for 2018.**

2018 - part 1														
	Exemption article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size regulation	Mesh size	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	2018/189 Article 3	Vb-Ivc (only south of 54°)	yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	ALL	All	VL0010-VL1012-VL1218-VL1824	ALL	SPF	Mackerel	MAC	1
	2018/189 Article 3		yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	ALL	All	VL0010-VL1012-VL1218-VL1824	ALL	SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	2018/189 Article 3		yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	ALL	All	VL0010-VL1012-VL1218-VL1824	ALL	SPF	Herring	HER	
	2018/189 Article 3		yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	ALL	All	VL0010-VL1012-VL1218-VL1824	ALL	SPF	Whiting	WHG	
	2018/45 Article 7 (a)	IV-III-lla (EU)	yes	Trammel nets and gill nets	GN, GNS, GND, GNC, GTN, GTR, GEN, GNF	GND-GNS-GNC-GTR-GTN	ALL	All	All	ALL	ALL	Sole	SOL	3
	2018/45 Article 7 (b)	IV	yes	Beam trawl (TBB)	TBB	TBB	80-119	80D100-100D110-110D120	All	TBBFP	ALL	Sole	SOL	6 (below MCRS)
	2018/45 Article 7 (c)	IV-lla	Yes	Bottom trawls	OTB-TBN-OTT-TB	OTB-OTT-PTB-TBB	80-99	80D100	All	All	ALL	Norway Lobster	NEP	2 (below MCRS)
	2018/45 Article 7 (d)	IIla	yes	Bottom trawls (OTB,TBN)	OTB-TBN	OTB	70+	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID35	CRU	SOL-HAD-WHG-COD-POK	SOL-HAD-WHG-COD-POK	4% of the total annual catches of NEP,SOL,HAD,WHG,PND
	2018/45 Article 7 (e)	IIla	yes	Bottom trawls (OTB)	OTB	OTB	35+	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID19	CRU	SOL-HAD-WHG-COD-POK-PLE	SOL-HAD-WHG-COD-POK-PLE	1 of total catches of NEP,SOL,WHG,COD,HAD,POK,PLE,PND
	2018/45 Article 7 (f)	IVc	yes	Bottom trawls	OTB-OTT-SDN-SSC	OTB-OTT-SDN-SSC	70-99	32D80-80D100-70S90	All	ALL	DEF	Cod-Whiting	COD-WHG	6 (below MCRS,max. 2 % for cod) of total catches of NEP,SOL,HAD,PLE,COD,WHG,POK,PND
	2018/45 Article 7 (g)	IIla	yes	Bottom trawls	OTB-OTT-TBN	OTB-OTT	90-119	80D100-100D110-110D120	All	SELTRA	ALL	Whiting	WHG	2 (below MCRS) of total catches of NEP,COD,HAD,WHG,POK,SOL,PLE,HKE
	2018/45 Article 7 (g)	IIla	yes	Bottom trawls	OTB-OTT-TBN	OTB-OTT	120+	120DXX	All	ALL	ALL	Whiting	WHG	2 (below MCRS) of total catches of NEP,COD,HAD,WHG,POK,SOL,PLE,HKE

**Table 3.4.2.4. North Sea discard plans for 2018 (continued).**

		2018 - part 2												
	Exemption article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size regulation	Mesh size	Vessel lenght	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Survivability	1395/2014 Article 2	IV	no	pelagic purse seines		PS	ALL	All	All	ALL	ALL	Makerel	MAC	-
	1395/2014 Article 2		no	pelagic purse seines		PS	ALL	All	All	ALL	ALL	Herring	HER	-
	2018/45 Article 6	IV-IIIa	yes	Pots and Fyke Nets	FPO-FYK	FPO-FYK	ALL	ALL	ALL	ALL	ALL	cod-had-whg-ple-sol-hke-pok	cod-had-whg-ple-sol-hke-pok	-
	2018/45 Article 5	within six nautical miles of the coast in ICES area IVc and outside nursery areas	no	Otter trawls	OTB	OTB	80-99	80D100	VL0010	ALL	ALL	Sole	SOL	-
	2018/45 Article 4 (b)	IIIa	yes	bottom trawls (OTB,TBN)	OTB-TBN	OTB	70+	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID35	ALL	Norway Lobster	NEP	-
	2018/45 Article 4 (c)	IIIa	yes	bottom trawls (OTB,TBN)	OTB-TBN	OTB	90+	80D100-100D110-110D120-120DXX	ALL	SELTRA	ALL	Norway Lobster	NEP	-
	2018/45 Article 4 (d)	IV (only FU 6,8 and 9!)	no	bottom trawls (OTB,TBN)	OTB-TBN	OTB	80+	70S90-80D100-100D110-110D120-120DXX	ALL	NETGRID	ALL	Norway Lobster	NEP	-
	2018/45 Article 4 (a)	IV-IIIa	yes	Traps	FPO	FPO	ALL	All	All	All	All	Norway lobster	NEP	-

**Table 3.4.2.5. Preliminary North Sea discard plans for 2019.**

2019 - Part 1														
Exemption Article	Area	Description	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	Mesh size FDI	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
<i>Demimis</i> JR-30.08.2018 Item 5.2.8	IVb-IVc	By-catches in the brown shrimp fishery in the North Sea	Yes	Beam trawls	TBB	TBB		16D32	All		CRU	All species subject to catch limits	All	7 % of the total catch for all species subject to catch limits
JR-30.08.2018 Item 5.2.10	IV	Ling ( <i>Molva molva</i> ) for vessels using bottom trawls (OTB-OTT and PTB) >100mm in the North Sea (ICES area 4)	Yes	Bottom trawls	OTB-OTT-PTB	OTB-OTT-PTB	>100	100D110-110D120-120DXX	All		DEF	Ling	LIN	3 % of the total annual catches of ling
JR-30.08.2018 Item 5.2.9	IV	Pelagic species under landing obligation for demersal vessels using bottom trawls (OTB-OTT-PTB-TBB) of mesh size 80-99mm (TR2-BT 2) in the North Sea	Yes	Bottom trawls-beam trawls	OTB-OTT-PTB-TBB	OTB-OTT-PTB-TBB	80-99	80D100	All		DEF	Mackerel	MAC	7% of the total annual catches of mackerel
				Bottom trawls-beam trawls	OTB-OTT-PTB-TBB	OTB-OTT-PTB-TBB	80-99	80D100	All		DEF	Horse mackerel	HOM-JAX-HMG	7% of the total annual catches of horse mackerel
JR-30.08.2018 Item 5.2.7	IV	Plaice by-catches in the Nephrops trawl fishery in combination with a technical measure (use of SepNep)	Yes	Bottom trawls	OTB-PTB	OTB-OTT-PTB	80-99	80D100	All	SEPNEP	CRU	Plaice	PLE	3 % of the total annual catches of saithe-plaice-haddock-whiting-cod-Northern prawn-sole and Nephrops
JR-30.08.2018 Item 5.2.4	IV	Whiting and cod for the vessels using bottom trawls (OTB-OTT-SDN-SSC) of mesh size 70-99mm (TR2) in the North Sea (ICES subarea 4)	Yes	Bottom trawls-demersal seines	OTB-OTT-SDN-SSC	OTB-OTT-SDN-SSC	70-99	32D80-80D100	All		DEF	Whiting-cod	WHG-COD	6%-maximum of 2% can be used for cod
JR-30.08.2018 Item 5.2.11	IV	Whiting caught by beam trawls 80-119 mm in the North Sea ICES area 4	Yes	Beam trawls	TBB	TBB	80-119	80D100-100D110-110D120	All		DEF	Whiting	WHG	2% of catches of plaice and sole
JR-30.08.2018 Item 5.2.5	IIIa	Whiting caught in bottom trawls 90-119 mm with SELTRA panels on bottom trawls with a mesh size of 120 mm and above in the Skagerrak and the Kattegat (ICES Area 3a)	Yes	Bottom trawls	OTB-OTT-TBN	OTB-OTT-PTB	90-119	80D100-100D110-110D120	All	SELTRA	All	Whiting	WHG	2% of the total annual catches of Nephrops-cod-haddock-whiting-saithe-common sole-plaice and hake
							>=120	120DXX	All					
JR-30.08.2018 Item 5.2.1	IIIa	Fish bycatch caught in Nephrops targeted trawl fishery	Yes	Bottom trawls	OTB-TBN	OTB-OTT	70-89	70S90	All	GRID35	CRU	Sole-haddock-whiting-cod-saithe and hake	SOL-HAD-WHG-COD-POK-HKE	4 % of the total annual catches of Nephrops-common sole-haddock-whiting-Northern prawn-cod-saithe and hake
JR-30.08.2018 Item 5.2.6	IIIa	Fish bycatch caught in Northern prawn trawl fishery with sorting grid-with unblocked fish outlet in ICES area 3a	Yes	Bottom trawls	OTB-OTT	OTB-OTT	>35	32D80	All	GRID19	CRU	sole-haddock-whiting-cod-saithe-plaice-herring-Norway pout-greater silver smelt-blue whiting	SOL-HAD-WHG-COD-POK-PL-HER-NOP-ARG-ARU-ARY-WHB	5 % of the total annual catches of species under landing obligation (Norway lobster-common sole-haddock-whiting-hake-Northern prawn-cod-saithe-plaice-Norway pout-Argentina spp.-herring and blue whiting
JR-30.08.2018 Item 5.2.3	IV	De minimis exemption for fishing vessels using TBB gear 80-119 mm to catch sole in area IV of the North Sea because of improved selectivity	Yes	Beam trawls	TBB	TBB	80-119	80D100-100D110-110D120	All	TBBFP	DEF	Sole	SOL	6%

**Table 3.4.2.5. Preliminary North Sea discard plans for 2019 (Continued).**

2019 - Part 2														
Exemption Article	Area	Description	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	Mesh size FDI	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Survivability	JR-30.08.2018 Item 5.1.9	Catch and by-catch of plaice by vessels using trawl (OTB-PTB) of mesh sizes ≥ 120 mm in ICES areas 3a and 4 in winter	No	Bottom trawls	OTB-PTB	OTB-OTT-PTB	≥120	120DXX	All		DEF	Plaice	PLE	-
	JR-30.08.2018 Item 5.1.5	Catch of plaice by vessels using Danish seine in ICES areas 3a and 4	Yes	Danish seine	SDN	SDN		All	All		DEF	Plaice	PLE	-
	JR-30.08.2018 Item 5.1.4	Catch of plaice by vessels using nets in ICES areas 3a and 4	Yes	Nets	GNS-GTR-GTN-GEN	GNS-GTR-GTN	All	All	All		All	Plaice	PLE	-
	JR-30.08.2018 Item 5.1.2	High survival exemption for 'undersized' common sole (sole less than MCRS of 24cm) caught by 80-99mm otter trawl gears in ICES area 4c within 6 nautical miles of coasts-albeit outside identified nursery areas	No	Otter trawls	OTB	OTB	80-99	80D100	VL0010		DEF	Sole	SOL	-
	JR-30.08.2018 Item 5.1.6	Nephrops caught by demersal trawls with a cod end larger than 80mm (70mm/35mm)	Yes	Bottom trawls	OTB-OTT-PTB	OTB-OTT-PTB	>80	32D80	All	GRID19	All	Norway lobster	NEP	-
								70S90	All	GRID35				-
								80D100-100D110-110D120-120DXX	All	SELTRA				-
								120DXX	All					-
								80D100-100D110-110D120	All	NETGRID				-
	JR-30.08.2018 Item 5.1.1	Nephrops caught using pots	Yes	Pots and traps	FPO	FPO	NA	NA	All		All	Norway lobster	NEP	-
	JR-30.08.2018 Item 5.1.7	skates and rays caught by all fishing gears in the North Sea (areas 4-3a and EU waters of 2a)	Yes	All	All	All	All	All	All		All	Skates and rays	JAD-JDP-RJA-RJB-RJC-RJE-RJF-RJG-RJH-RJI-RJM-RJN-RJO-RJR-RJU-RJY-SKA-TTO-TTR	-
	JR-30.08.2018 Item 5.1.3	Survivability of fish by-catches in pots (creels) and traps	Yes	Pots and traps	FPO-FYK	FPO-FYK	NA	NA	All		CRU	Haddock-whiting-cod-plaice-sole-hake-saithe	HAD-WHG-COD-PLE-SOL-HKE-POK	-
	JR-30.08.2018 Item 5.1.10	Temporary high survival exemption (2019-2021) for BT2 for turbot caught by towed gears with a cod end larger than 80mm in ICES area 4	Yes	Beam trawls-bottom trawls	TBB-OTB-PTB	TBB-OTB-OTT-PTB	>80	80D100-100D110-110D120-120DXX	All		DEF	Turbot	TUR	-
	JR-30.08.2018 Item 5.1.8	Temporary high survival exemption for plaice below MCRS caught by 80-119mm beamtrawl gears (BT2) in ICES area 4	Yes	Beam trawls	TBB	TBB	80-119	80D100-100D110-110D120	All		DEF	Plaice	PLE	-

**Table 3.4.2.6. Landings and unwanted catch reported by MS to FDI data call for the fleets under exemptions in North Sea region, 2015-2017**

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
Deminimis	1395/2014 Article 3	IVb-Ivc (only south of 54!)	OTM	All	VL0010-VL1012-VL1218-VL1824	All	SPF	Mackerel	2015	DNK	6.5	n.a.	n.a.
									2015 Total	Total	6.5	n.a.	n.a.
								Herring	2015	DNK	49.2	n.a.	n.a.
									2015	ENG	23.1	n.a.	n.a.
								Whiting	2015 Total	Total	72.3	n.a.	n.a.
									2015	DNK	13.7	n.a.	n.a.
		IVb-Ivc (only south of 54!)	OTM	All	VL0010-VL1012-VL1218-VL1824	All	SPF	Mackerel	2015 Total	Total	13.7	n.a.	n.a.
									2016	DNK	7.6	n.a.	n.a.
								Herring	2016 Total	Total	7.6	n.a.	n.a.
									2016	DNK	55.7	n.a.	n.a.
								Whiting	2016	ENG	22.9	n.a.	n.a.
									2016 Total	Total	78.7	n.a.	n.a.
		IVb-Ivc (only south of 54!)	OTM	All	VL0010-VL1012-VL1218-VL1824	All	SPF	Mackerel	2016 Total	Total	51.4	n.a.	n.a.
									2016	DNK	51.4	n.a.	n.a.
								Herring	2017	DNK	5.8	n.a.	n.a.
									2017	FRA	0.3	n.a.	n.a.
								Whiting	2017 Total	Total	6.1	n.a.	n.a.
									2017	DNK	91.4	n.a.	n.a.
		IVb-Ivc (only south of 54!)	OTM	All	VL0010-VL1012-VL1218-VL1824	All	SPF	Herring	2017	ENG	56.0	0.0	71%
									2017 Total	Total	147.4	0.0	27%
								Whiting	2017	DNK	12.1	n.a.	n.a.
									2017	ENG	0.0	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2017 Total	<b>Total</b>	<b>12.1</b>	n.a.	n.a.
Deminimis	2015/2440 Article 3 (a)	IIIa	OTB	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID35	CRU	Sole	2016	<b>SWE</b>	<b>0.3</b>	0.8	100%
									2016 Total	<b>Total</b>	<b>0.3</b>	0.8	100%
								Haddock	2016	<b>SWE</b>	<b>0.0</b>	0.1	100%
									2016 Total	<b>Total</b>	<b>0.0</b>	0.1	100%
Deminimis	2015/2440 Article 3 (b)	IV-IIIa-IIa (EU)	GND-GNS-GNC-GTR-GTN	All	All	All	All	Sole	2016	<b>BEL</b>	<b>25.0</b>	n.a.	n.a.
									2016	<b>DEU</b>	<b>103.9</b>	n.a.	n.a.
									2016	<b>DNK</b>	<b>379.0</b>	0.0	45%
									2016	<b>ENG</b>	<b>83.5</b>	1.5	8%
									2016	<b>FRA</b>	<b>353.5</b>	n.a.	n.a.
									2016	<b>NLD</b>	<b>85.9</b>	0.0	100%
									2016	<b>SWE</b>	<b>5.3</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>1036.0</b>	1.6	25%
Deminimis	2016/2250 Article 6 (a)	IV-IIIa-IIa (EU)	GND-GNS-GNC-GTR-GTN	All	All	All	All	Sole	2017	<b>BEL</b>	<b>46.4</b>	n.a.	n.a.
									2017	<b>DEU</b>	<b>102.2</b>	n.a.	n.a.
									2017	<b>DNK</b>	<b>523.1</b>	0.3	39%
									2017	<b>ENG</b>	<b>84.3</b>	1.8	20%
									2017	<b>FRA</b>	<b>382.5</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>60.8</b>	0.0	0%
									2017	<b>SWE</b>	<b>8.3</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>1207.6</b>	2.1	19%
Deminimis	2016/2250 Article 6	IIIa	OTB	32D80-80D100-	All	GRID35	CRU	Haddock	2017	<b>SWE</b>	<b>0.0</b>	0.4	100%
									2017 Total	<b>Total</b>	<b>0.0</b>	0.4	100%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
	(d)			100D110-110D120-120DXX-70S90				Sole	2017	SWE	0.3	1.0	100%
									2017 Total	Total	0.3	1.0	100%
Deminimis	2015/2440 Article 3 (e)	IV-IIa	TBB-OTB-OTT-PTB	80D100	All	All	All	Norway lobster	2016	BEL	879.9	n.a.	n.a.
									2016	DEU	832.3	84.4	24%
									2016	DNK	652.9	0.0	73%
									2016	ENG	1441.5	256.3	97%
									2016	NIR	1.6	n.a.	n.a.
									2016	NLD	1394.0	2028.2	100%
									2016	SCO	3369.8	n.a.	n.a.
									2016 Total	Total	8571.9	2368.9	40%
Deminimis	2015/2440 Article 3 (c)	IVc (south of 55-56)	TBB	80D100	All	All	All	Sole	2016	BEL	321.9	62.4	100%
									2016	DEU	286.4	21.1	100%
									2016	ENG	209.0	n.a.	n.a.
									2016	FRA	10.3	n.a.	n.a.
									2016	NLD	7311.1	686.2	100%
									2016	SCO	0.3	n.a.	n.a.
									2016 Total	Total	8139.0	769.7	97%
Deminimis	2016/2250 Article 6 (c)	IV-IIa	TBB-OTB-OTT-PTB	80D100	All	All	All	Norway lobster	2017	BEL	1104.3	n.a.	n.a.
									2017	DEU	885.6	145.5	23%
									2017	DNK	532.1	n.a.	n.a.
									2017	ENG	1109.4	132.5	99%
									2017	FRA	15.1	n.a.	n.a.



Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2017	NIR	0.3	n.a.	n.a.
									2017	NLD	1257.2	2916.3	26%
									2017	SCO	3684.6	n.a.	n.a.
									2017 Total	Total	8588.7	3194.3	19%
Deminimis	2016/2250 Article 6 (f)	IIIa	OTB	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID19	CRU	SOL-HAD-WHG	2017	SWE	0.0	9.4	100%
									2017 Total	Total	0.0	9.4	100%
Deminimis	2015/2440 Article 3 (d)	IV	TBB	80D100-100D110-110D120	All	TBBFP	All	Sole	2016	BEL	574.5	111.3	100%
									2016	NLD	3763.3	338.9	100%
									2016 Total	Total	4337.7	450.2	100%
Deminimis	2016/2250 Article 6 (b)	IV	TBB	80D100-100D110-110D120	All	TBBFP	All	Sole	2017	BEL	417.4	89.8	100%
									2017	NLD	3159.4	349.1	100%
									2017 Total	Total	3576.8	438.8	100%
Deminimis	2016/2250 Article 6 (g)	IIIa	FPO	All	All	All	CRU	SOL-HAD-WHG	2017	SWE	0.1	0.4	100%
									2017 Total	Total	0.1	0.4	100%
Survivability	2015/2440 Article 2 (a)	IV-IIIa	FPO	All	All	All	All	Norway lobster	2016	ENG	41.1	n.a.	n.a.
									2016	SCO	112.9	n.a.	n.a.
									2016	SWE	323.7	13.8	89%
									2016 Total	Total	477.7	13.8	61%
Survivability	2016/2250 Article 4	IV-IIIa	FPO	All	All	All	All	Norway lobster	2017	ENG	12.5	n.a.	n.a.
									2017	SCO	22.9	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
	(a)								2017	SWE	290.5	15.3	100%
									2017 Total	Total	325.9	15.3	89%
Survivability	2015/2440 Article 2 (c)	IIIa	OTB	80D100-100D110-110D120-120DXX	All	SELTRA	All	Norway lobster	2016	DNK	2942.0	78.2	97%
									2016	SWE	44.1	9.6	100%
									2016 Total	Total	2986.0	87.8	97%
Survivability	2015/2440 Article 2 (b)	IIIa	OTB	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID35	All	Norway lobster	2016	DNK	64.3	2.8	87%
									2016	SWE	187.6	35.7	100%
									2016 Total	Total	251.9	38.5	97%
Survivability	2016/2250 Article 4 (c)	IIIa	OTB	80D100-100D110-110D120-120DXX	All	SELTRA	All	Norway lobster	2017	DNK	3163.3	330.9	100%
									2017	SWE	51.8	26.5	100%
									2017 Total	Total	3215.1	357.4	100%
Survivability	2016/2250 Article 4 (b)	IIIa	OTB	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID35	All	Norway lobster	2017	DNK	95.4	16.3	100%
									2017	SWE	225.2	102.6	100%
									2017 Total	Total	320.6	118.8	100%

**Table 3.4.2.7. Landings and unwanted catch reported by MS to FDI data call for the fleets under exemptions in the North Sea 2018 and provisional exemptions for 2019, 2017 data**

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
Deminimis	2018/189 Article 3	IVb-Ivc (only south of 54!)	OTM-PTM	All	VL0010-VL1012-VL1218-VL1824	All	SPF	Mackerel	2017	DNK	21.0	n.a.	n.a.
									2017	FRA	0.3	n.a.	n.a.
									2017 Total	Total	21.3	n.a.	n.a.
								Horse Mackerel	2017	DNK	0.0	n.a.	n.a.
									2017 Total	Total	0.0	n.a.	n.a.
								Herring	2017	DNK	513.5	n.a.	n.a.
									2017	ENG	56.0	0.0	71%
									2017 Total	Total	569.5	0.0	7%
								Whiting	2017	DNK	83.3	n.a.	n.a.
									2017	ENG	0.0	n.a.	n.a.
									2017 Total	Total	83.3	n.a.	n.a.
Deminimis	2018/45 Article 7 (a)	IV-IIIa-IIa (EU)	GND-GNS-GNC-GTR-GTN	All	All	All	All	Sole	2017	BEL	46.4	n.a.	n.a.
									2017	DEU	102.2	n.a.	n.a.
									2017	DNK	523.1	0.3	39%
									2017	ENG	84.3	1.8	20%
									2017	FRA	382.5	n.a.	n.a.
									2017	NLD	60.8	0.0	0%
									2017	SWE	8.3	n.a.	n.a.
									2017 Total	Total	1207.6	2.1	19%
Deminimis	2018/45 Article 7 (b)	IV	TBB	80D100-100D110-110D120	All	TBBFP	All	Sole	2017	BEL	417.4	89.8	100%
									2017	NLD	3159.4	349.1	100%
									2017 Total	Total	3576.8	438.8	100%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
Deminimis	2018/45 Article 7 (c)	IV-IIa	TBB-OTB-OTT-PTB	80D100	All	All	All	Norway lobster	2017	<b>BEL</b>	<b>1104.3</b>	n.a.	n.a.
									2017	<b>DEU</b>	<b>885.6</b>	145.5	23%
									2017	<b>DNK</b>	<b>532.1</b>	n.a.	n.a.
									2017	<b>ENG</b>	<b>1109.4</b>	132.5	99%
									2017	<b>FRA</b>	<b>15.1</b>	n.a.	n.a.
									2017	<b>NIR</b>	<b>0.3</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>1257.2</b>	2916.3	26%
									2017	<b>SCO</b>	<b>3684.6</b>	n.a.	n.a.
Deminimis	2018/45 Article 7 (d)	IIIa	OTB	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID35	CRU	SOL-HAD-WHG-COD-POK	2017	<b>SWE</b>	<b>0.7</b>	12.2	100%
									2017 Total	<b>Total</b>	<b>0.7</b>	12.2	100%
Deminimis	2018/45 Article 7 (e)	IIIa	OTB	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID19	CRU	SOL-HAD-WHG-COD-POK-PLE	2017	<b>SWE</b>	<b>1.6</b>	17.4	100%
									2017 Total	<b>Total</b>	<b>1.6</b>	17.4	100%
Deminimis	2018/45 Article 7 (f)	IVc	OTB-OTT-SDN-SSC	32D80-80D100-70S90	All	All	DEF	Cod-Whiting	2017	<b>BEL</b>	<b>15.9</b>	n.a.	n.a.
									2017	<b>ENG</b>	<b>40.1</b>	46.3	4%
									2017	<b>FRA</b>	<b>193.8</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>209.2</b>	13.5	6%
									2017	<b>SCO</b>	<b>1.2</b>	9.2	100%
									2017 Total	<b>Total</b>	<b>460.3</b>	69.0	3%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
Deminimis	2018/45 Article 7 (g)	IIIa	OTB-OTT	120DXX	All	All	All	Whiting	2017	DEU	0.5	0.0	59%
									2017	DNK	15.6	10.4	100%
									2017	SWE	2.8	14.6	100%
									2017 Total	Total	18.9	25.0	99%
			OTB-OTT	80D100-100D110-110D120	All	SELTRA	All	Whiting	2017	DNK	137.9	870.0	100%
									2017	SWE	27.4	84.2	100%
									2017 Total	Total	165.2	954.2	100%
Deminimis	5.2.1 Fish bycatch caught in Nephrops targeted trawl fishery	IIIa	OTB-OTT	70S90	All	GRID35	CRU	Sole-haddock-whiting-cod-saithe and hake	2017	SWE	3.4	45.0	100%
									2017 Total	Total	3.4	45.0	100%
Deminimis	5.2.3 De minimis exemption for fishing vessels using TBB gear 80-119 mm to catch sole in area IV of the North Sea because of improved selectivity	IV	TBB	80D100-100D110-110D120	All	TBBFP	DEF	Sole	2017	BEL	417.4	89.8	100%
									2017	NLD	3156.9	349.1	100%
									2017 Total	Total	3574.2	438.8	100%
Deminimis	5.2.4 Whiting and cod for the vessels using bottom trawls (OTB-OTT-SDN-SSC) of mesh size 70-	IV	OTB-OTT-SDN-SSC	32D80-80D100	All	All	DEF	Whiting-cod	2017	BEL	49.3	n.a.	n.a.
									2017	DEU	18.8	73.2	30%
									2017	DNK	30.9	0.0	13%
									2017	ENG	460.0	1189.1	78%
									2017	FRA	764.6	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
	99mm (TR2) in the North Sea (ICES subarea 4)								2017	NLD	299.7	211.0	6%
									2017	SCO	295.8	2245.2	99%
									2017	SWE	12.0	0.0	100%
									2017 Total	Total	1931.1	3718.6	36%
Deminimis	5.2.5 Whiting caught in bottom trawls 90-119 mm with SELTRA panels and bottom trawls with a mesh size of 120 mm and above in the Skagerrak and the Kattegat (ICES Area 3a)	IIIa	OTB-OTT-PTB	120DXX	All	All	All	Whiting	2017	DEU	0.5	0.0	59%
									2017	DNK	15.6	10.4	100%
									2017	SWE	3.0	14.7	100%
			OTB-OTT-PTB	80D100-100D110-110D120	All	SELTRA	All	Whiting	2017	DNK	137.9	870.0	100%
									2017	SWE	27.4	84.2	100%
									2017 Total	Total	184.4	979.4	100%
Deminimis	5.2.6 Fish bycatch caught in Northern prawn trawl fishery with sorting grid-with unblocked fish outlet in ICES area 3a	IIIa	OTB-OTT	32D80	All	GRID19	CRU	sole-haddock-whiting-cod-saithe-plaice-herring-Norway pout-greater silver smelt-blue whiting	2017	SWE	2.5	149.0	100%
									2017 Total	Total	2.5	149.0	100%
Deminimis	5.2.8 By-catches in the brown shrimp fishery in the North Sea	IVb-IVc	TBB	16D32	All	All	CRU	All species	2017	BEL	797.0	n.a.	n.a.
									2017	DEU	8701.1	10496.8	61%
									2017	DNK	1600.7	579.3	100%
									2017	ENG	477.7	692.7	0%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2017	<b>NLD</b>	<b>12176.7</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>23753.1</b>	11768.8	29%
Deminimis	5.2.9 Pelagic species under landing obligation for demersal vessels using bottom trawls (OTB-OTT-PTB-TBB) of mesh size 80-99mm (TR2-BT 2) in the North Sea	IV	TBB-OTB-OTT-PTB	80D100	All	All	DEF	Horse Mackerel	2017	<b>BEL</b>	<b>0.4</b>	n.a.	n.a.
									2017	<b>ENG</b>	<b>0.2</b>	2.5	0%
									2017	<b>FRA</b>	<b>43.6</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>41.0</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>41.0</b>	n.a.	n.a.
								Mackerel	2017	<b>BEL</b>	<b>0.3</b>	n.a.	n.a.
									2017	<b>DEU</b>	<b>0.1</b>	0.0	83%
									2017	<b>DNK</b>	<b>0.1</b>	n.a.	n.a.
									2017	<b>ENG</b>	<b>16.8</b>	0.5	100%
									2017	<b>FRA</b>	<b>396.5</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>64.6</b>	n.a.	n.a.
									2017	<b>SCO</b>	<b>1.6</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>565.2</b>	3.0	3%
								Ling	2017	<b>BEL</b>	<b>c</b>	c	c
									2017	<b>DEU</b>	<b>98.8</b>	0.3	100%
									2017	<b>DNK</b>	<b>984.4</b>	0.6	100%
									2017	<b>ENG</b>	<b>357.6</b>	n.a.	n.a.
									2017	<b>FRA</b>	<b>270.9</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>0.0</b>	n.a.	n.a.
									2017	<b>SCO</b>	<b>2082.8</b>	732.5	100%
									2017	<b>SWE</b>	<b>16.0</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>3810.6</b>	733.5	83%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
Deminimis	5.2.11 Whiting caught by beam trawls 80-119 mm in the North Sea ICES area 4	IV	TBB	80D100-100D110-110D120	All	All	DEF	Whiting	2017	BEL	25.1	85.1	100%
									2017	DEU	8.2	32.0	100%
									2017	ENG	7.9	n.a.	n.a.
									2017	FRA	0.9	n.a.	n.a.
									2017	NLD	235.6	1088.5	100%
									2017	SCO	0.0	n.a.	n.a.
									2017 Total	Total	277.7	1205.6	97%
Survivability	2018/45 Article 4 (a)	IV-IIIa	FPO	All	All	All	All	Norway lobster	2017	ENG	12.5	n.a.	n.a.
									2017	SCO	22.9	n.a.	n.a.
									2017	SWE	290.5	15.3	100%
									2017 Total	Total	325.9	15.3	89%
Survivability	2018/45 Article 4 (b)	IIIa	OTB	32D80-80D100-100D110-110D120-120DXX-70S90	All	GRID35	All	Norway lobster	2017	DNK	95.4	16.3	100%
									2017	SWE	225.2	102.6	100%
									2017 Total	Total	320.6	118.8	100%
Survivability	2018/45 Article 4 (c)	IIIa	OTB	80D100-100D110-110D120-120DXX	All	SELTRA	All	Norway lobster	2017	DNK	3163.3	330.9	100%
									2017	SWE	51.8	26.5	100%
									2017 Total	Total	3215.1	357.4	100%
Survivability	2018/45 Article 6	IV-IIIa	FPO-FYK	All	All	All	All	cod-had-whg-ple-sol-hke-pok	2017	DNK	0.1	n.a.	n.a.
									2017	ENG	29.8	n.a.	n.a.
									2017	FRA	0.1	n.a.	n.a.
									2017	SCO	16.4	n.a.	n.a.
									2017	SWE	0.9	11.8	89%



Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2017 Total	<b>Total</b>	<b>47.2</b>	11.8	2%
Survivability	5.1.1 Nephrops caught using pots	IV-IIIa-IIa	FPO	All	All	All	All	Norway lobster	2017	<b>ENG</b>	<b>12.5</b>	n.a.	n.a.
									2017	<b>SCO</b>	<b>22.9</b>	n.a.	n.a.
									2017	<b>SWE</b>	<b>290.5</b>	15.3	100%
									2017 Total	<b>Total</b>	<b>325.9</b>	15.3	89%
Survivability	5.1.3 Survivability of fish by-catches in pots (creels) and traps	IV-IIIa	FPO-FYK	All	All	All	CRU	Haddock-whiting-cod-plaice-sole-hake-saithe	2017	<b>DNK</b>	<b>0.1</b>	n.a.	n.a.
									2017	<b>ENG</b>	<b>29.8</b>	n.a.	n.a.
									2017	<b>FRA</b>	<b>0.1</b>	n.a.	n.a.
									2017	<b>SCO</b>	<b>16.4</b>	n.a.	n.a.
									2017	<b>SWE</b>	<b>0.9</b>	11.8	89%
									2017 Total	<b>Total</b>	<b>47.2</b>	11.8	2%
Survivability	5.1.4 Catch of plaice by vessels using nets in ICES areas 3a and 4	IV-IIIa	GNS-GTR-GTN	All	All	All	All	Plaice	2017	<b>BEL</b>	<b>23.0</b>	n.a.	n.a.
									2017	<b>DEU</b>	<b>14.2</b>	n.a.	n.a.
									2017	<b>DNK</b>	<b>3669.8</b>	46.4	64%
									2017	<b>ENG</b>	<b>81.6</b>	5.1	2%
									2017	<b>FRA</b>	<b>90.6</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>0.0</b>	0.0	0%
									2017	<b>SCO</b>	<b>0.2</b>	n.a.	n.a.
									2017	<b>SWE</b>	<b>20.9</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>3900.3</b>	51.5	60%
Survivability	5.1.5 Catch of plaice by vessels using Danish seine in	IV-IIIa	SDN	All	All	All	DEF	Plaice	2017	<b>DNK</b>	<b>2911.4</b>	105.6	69%
									2017	<b>FRA</b>	<b>5.8</b>	n.a.	n.a.
									2017	<b>SCO</b>	<b>143.1</b>	4.2	100%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
	ICES areas 3a and 4								2017	<b>SWE</b>	<b>99.1</b>	0.8	98%
									2017 Total	<b>Total</b>	<b>3159.5</b>	110.6	71%
Survivability	5.1.6 Nephrops caught by demersal trawls with a cod end larger than 80mm (70mm/35mm)	IV-IIIa-IIa	OTB-OTT-PTB	120DXX	All	All	All	Norway lobster	2017	<b>DNK</b>	<b>92.4</b>	1.5	99%
									2017	<b>ENG</b>	<b>32.8</b>	1.0	83%
									2017	<b>NLD</b>	<b>0.0</b>	n.a.	n.a.
									2017	<b>SCO</b>	<b>551.3</b>	n.a.	n.a.
									2017	<b>SWE</b>	<b>5.5</b>	21.7	99%
									2017	<b>SWE</b>	<b>4.9</b>	1.5	100%
									2017	<b>SWE</b>	<b>616.6</b>	250.1	100%
									2017	<b>DNK</b>	<b>3208.0</b>	334.7	100%
									2017	<b>SWE</b>	<b>505.3</b>	152.8	100%
									2017 Total	<b>Total</b>	<b>5016.7</b>	763.3	89%
Survivability	5.1.7 skates and rays caught by all fishing gears in the North Sea (areas 4-3a and EU waters of 2a)	IV-IIIa-IIa	All	All	All	All	All	Skates and rays	2017	<b>BEL</b>	<b>175.7</b>	n.a.	n.a.
									2017	<b>DEU</b>	<b>34.1</b>	0.0	22%
									2017	<b>DNK</b>	<b>111.9</b>	6.0	92%
									2017	<b>ENG</b>	<b>335.0</b>	355.6	37%
									2017	<b>FRA</b>	<b>34.6</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>436.2</b>	1242.7	99%
									2017	<b>SCO</b>	<b>367.1</b>	n.a.	n.a.
									2017	<b>SWE</b>	<b>0.3</b>	62.5	100%
									2017 Total	<b>Total</b>	<b>1494.8</b>	1666.8	45%
Survivability	5.1.8 Temporary	IV-IIIa	TBB	80D100-100D110-	All	All	DEF	Plaice	2017	<b>BEL</b>	<b>1548.7</b>	1495.7	99%
									2017	<b>DEU</b>	<b>1355.7</b>	1306.9	100%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
	high survival exemption for plaice below MCRS caught by 80-119mm beamtrawl gears (BT2) in ICES area 4			110D120					2017	<b>DNK</b>	<b>31.3</b>	n.a.	n.a.
									2017	<b>ENG</b>	<b>4744.0</b>	n.a.	n.a.
									2017	<b>FRA</b>	<b>42.8</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>15737.1</b>	22436.5	99%
									2017	<b>SCO</b>	<b>416.3</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>23876.0</b>	25239.1	78%
Survivability	5.1.10 Temporary high survival exemption (2019-2021) for BT2 for turbot caught by towed gears with a cod end larger than 80mm in ICES area 4	IV	TBB-OTB-OTT-PTB	80D100-100D110-110D120-120DXX	All	All	DEF	Turbot	2017	<b>BEL</b>	<b>329.2</b>	18.3	61%
									2017	<b>DEU</b>	<b>233.6</b>	7.9	71%
									2017	<b>DNK</b>	<b>251.1</b>	1.3	77%
									2017	<b>ENG</b>	<b>248.1</b>	0.0	6%
									2017	<b>FRA</b>	<b>2.8</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>1770.0</b>	160.7	94%
									2017	<b>SCO</b>	<b>125.3</b>	n.a.	n.a.
									2017	<b>SWE</b>	<b>0.8</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>2961.0</b>	188.2	76%

### 3.4.3 North Western Waters discard plans for 2015-2018

**Table 3.4.3.1. North Western Waters discard plans for 2015.**

2015														
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size regulation	Mesh size	Vessel length	SPECON	Target Assemblage	Species	Species codes	Percent/MCRS
Deminimis	1393/2014 Article 3.a	Vb-VI-VII	yes	pelagic trawls		OTM-PTM	All	All	All	All	SPF-SLP	Blue whiting	WHB	7
	1393/2014 Article 3.b	VII	yes	midwater pair trawl	PTM	PTM	All	All	All	All	LPF-FIF	Albacore tuna	ALB	
	1393/2014 Article 3.c	VId	yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	All	All	VL0010-VL1012-VL1218-VL1824	All	All	Mackerel	MAC	3
	1393/2014 Article 3.c		yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	All	All	VL0010-VL1012-VL1218-VL1824	All	All	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1393/2014 Article 3.c		yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	All	All	VL0010-VL1012-VL1218-VL1824	All	All	Herring	HER	
	1393/2014 Article 3.c		yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	All	All	VL0010-VL1012-VL1218-VL1824	All	All	Whiting	WHG	
	1393/2014 Article 3.d	VI-VII	yes	Pelagic freezer trawlers targetting horse mackerel	OTM	OTM	All	All	All	All	SPF-SLP	Boarfish	BOR	1
Survivability	1393/2014 Article 2	VI	no	pelagic purse seines		PS	All	All	All	All	All	Mackerel	MAC	-
	1393/2014 Article 2		no	pelagic purse seines		PS	All	All	All	All	All	Herring	HER	-

**Table 3.4.3.2. North Western Waters discard plans for 2016.**

2016														
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size regulation	Mesh size	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	1393/2014 Article 3.a	Vb-VI-VII	yes	pelagic trawls		OTM-PTM	All	All	All	All	SPF-SLP	Blue whiting	WHB	7
	1393/2014 Article 3.b	VII	yes	midwater pair trawl	PTM	PTM	All	All	All	All	LPF-FIF	Albacore tuna	ALB	
	1393/2014 Article 3.c	VId	yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	All	All	VL0010-VL1012-VL1218-VL1824	All	All	Mackerel	MAC	2
	1393/2014 Article 3.c		yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	All	All	VL0010-VL1012-VL1218-VL1824	All	All	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1393/2014 Article 3.c		yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	All	All	VL0010-VL1012-VL1218-VL1824	All	All	Herring	HER	
	1393/2014 Article 3.c		yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	All	All	VL0010-VL1012-VL1218-VL1824	All	All	Whiting	WHG	
	1393/2014 Article 3.d	VI-VII	yes	Pelagic freezer trawlers targeting horse mackerel	OTM	OTM	All	All	All	All	SPF-SLP	Boarfish	BOR	0.75
	2438/2015 Article 3.1.a	VId-VIle-VIIf-VIlg	yes	Trammel and gill nets		GND-GNS-GNC-GTR-GTN	All	All	All	All	All	Sole	SOL	3
	2438/2015 Article 3.1.b	VId and VIle	yes	Bottom trawl		OTB-OTT-PTB-OTM	<100	00D16-16D32-32D70-70D80-80D100	All	All	All	Whiting	WHG	7
	2438/2015 Article 3.1.c	VIIf to VIIfj	yes	Bottom trawl		OTB-OTT-PTB-OTM	>100	110D110, 110D120, 120DXX	All	All	All	Whiting	WHG	7
	2438/2015 Article 3.1.d	VII except VIId,d and e	yes	Bottom trawl		OTB-OTT-PTB-OTM	<100	00D16-16D32-32D70-70D80-80D100	All	All	All	Whiting	WHG	7
	2438/2015 Article 3.1.g	VId,VIle,VIIf and VIlg	yes	Beam trawl		TBB	80-119 with increased selectivity	80D100, 100D110, 110D120	All	TBBFP	All	Sole	SOL	3
	2438/2015 Article 3.1.e	VII	yes	All		All	All	All	All	All	All	Norway Lobster	NEP	7
	2438/2015 Article 3.1.f	VIa	yes	All		All	All	All	All	All	All	Norway Lobster	NEP	7
Survivability	1393/2014 Article 2	VI	no	pelagic purse seines		PS	All	All	All	All	All	Mackerel	MAC	-
	1393/2014 Article 2		no	pelagic purse seines		PS	All	All	All	All	All	Herring	HER	-
	2438/2015 Article 2	VIa and VII	no	Pots,traps,creel	FPO-FIX	FPO-FPN	All	All	All	All	All	Norway Lobster	NEP	-

**Table 3.4.3.3. North Western Waters discard plans for 2017.**

2017														
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size regulation	Mesh size	essel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	1393/2014 Article 3.a	Vb-VI-VII	yes	pelagic trawls		OTM-PTM	All	All	All	All	SPF-SLP	Blue whiting	WHB	6
	1393/2014 Article 3.b	VII	yes	midwater pair trawl	PTM	PTM	All	All	All	All	LPF-FIF	Albacore tuna	ALB	
	2375/2016 Article 3.f	VIIId-VIIe-VIIIf-VIIg	yes	trammel and gill nets		GND-GNS-GNC-GTR-GTN	All	All	All	All	All	Sole	SOL	3
	2375/2016 Article 3.a	VIIId-VIIe	yes	Bottom trawls , Seines	OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV OT, PT and TX	OTB-OTT-PTB-SDN-SPR-SSC-SV	<100	00D16-16D32-32D70-70D80-80D100	All	All	All	Whiting	WHG	7
	2375/2016 Article 3.a		yes	Pelagic trawls	OTM, PTM	OTM-PTM	All	All	All	All	All	Whiting	WHG	7
	2375/2016 Article 3.b	VIIIf-VIIj	yes	Bottom trawls , Seines	OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV OT, PT and TX	OTB-OTT-PTB-SDN-SPR-SSC-SV	>100	110D110, 110D120, 120DXX	All	All	All	Whiting	WHG	7
	2375/2016 Article 3.b		yes	Pelagic trawls	OTM, PTM	OTM-PTM	All	All	All	All	All	Whiting	WHG	7
	2375/2016 Article 3.c	VII except VIIId, d and e	yes	Bottom trawls , Seines	OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV OT, PT and TX	OTB-OTT-PTB-SDN-SPR-SSC-SV	<100	00D16-16D32-32D70-70D80-80D100	All	All	All	Whiting	WHG	7
	2375/2016 Article 3.c		yes	Pelagic trawls	OTM, PTM	OTM-PTM	All	All	All	All	All	Whiting	WHG	7
	2375/2016 Article 3.g	VIIId,VIIe,VIIIf,VIIg and VIIh	yes	Beam trawl	TBB	TBB	80-119 with increased selectivity	80D100, 100D110, 110D120	All	TBBFP	All	Sole	SOL	3
	2375/2016 Article 3.d	VII	yes	Vessels obliged to land Norway lobster		All	All	All	All	All	All	Norway Lobster	NEP	7
	2375/2016 Article 3.e	VI	yes	Vessels obliged to land Norway lobster		All	All	All	All	All	All	Norway Lobster	NEP	7
Survivability	1393/2014 Article 2	VI	no	pelagic purse seines		PS	All	All	All	All	All	Makerel	MAC	-
	1393/2014 Article 2		no	pelagic purse seines		PS	All	All	All	All	All	Herring	HER	-
	2375/2016 Article 2.1.a	VI-VII	no	Pots, traps, creel	FPO-FIX	FPO-FPN	All	All	All	All	All	Norway Lobster	NEP	-
	2375/2016 Article 2.1.b	VIIId	no	Otter trawls	OTB,TBS,TBN,TB,PTB,OT,	OTT-OTB-OTM	80-99	80D100	VL0010	All	All	Sole	SOL	-

**Table 3.4.3.4. North Western Waters discard plans for 2018.**

2018														
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Legislation mesh size	Mesh size regul	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	190/2018 Article 3a.a	Vb-VI-VII	yes	pelagic trawls		OTM-PTM	All	All	All	All	SPF-SLP	Blue whiting	WHB	6
	190/2018 Article 3a.b	VII	yes	midwater pair trawl	PTM	PTM	All	All	All	All	LPF-FIF	Albacore tuna	ALB	
	190/2018 Article 3a.c	VIId	yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	All	All	VL0010-VL1012-VL1218-VL1822	All	All	Mackerel	MAC	1
	190/2018 Article 3a.c		yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	All	All	VL0010-VL1012-VL1218	All	All	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TU2	
	190/2018 Article 3a.c		yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	All	All	VL0010-VL1012-VL1218	All	All	Herring	HER	
	190/2018 Article 3a.c		yes	pelagic trawls, midwater trawls (up to 25m)	OTM-PTM	OTM-PTM	All	All	VL0010-VL1012-VL1218	All	All	Whiting	WHG	
	46/2018 Article 5.f	VIId-VIle-VIIf-VIIg	yes	trammel and gill nets		GND-GNS-GNC-GTR-GTN	All	All	All	All	All	Sole	SOL	3
	46/2018 Article 5.a	VIId-VIle	yes	Bottom trawls , Seines	OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV OT, PT and TX	OTB-OTT-PTB-SDN-SPR-SSC-SV	<100	00D16-16D32-32D70-	All	All	All	Whiting	WHG	6
	46/2018 Article 5.a		yes	Pelagic trawls	OTM,PTM	OTM-PTM	All	All	All	All	All	Whiting	WHG	6
	46/2018 Article 5.b	VIIf to VIIfj	yes	Bottom trawls , Seines	OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV OT, PT and TX	OTB-OTT-PTB-SDN-SPR-SSC-SV	>100	100D110, 110D120, 120DXX	All	All	All	Whiting	WHG	6
	46/2018 Article 5.b		yes	Pelagic trawls	OTM,PTM	OTM-PTM	All	All	All	All	All	Whiting	WHG	6
	46/2018 Article 5.c	VII except VIIa,d and e	yes	Bottom trawls , Seines	OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV OT, PT and TX	OTB-OTT-PTB-SDN-SPR-SSC-SV	<100	00D16-16D32-32D70-	All	All	All	Whiting	WHG	6
	46/2018 Article 5.c		yes	Pelagic trawls	OTM,PTM	OTM-PTM	All	All	All	All	All	Whiting	WHG	6
	46/2018 Article 5.g	VIId,VIIe,VIIf,VIIg and VIIh	yes	Beam trawl	TBB	TBB	80-119 with increased selectivity	80D100, 100D110, 110D120	All	TBBFP	All	Sole	SOL	3
	46/2018 Article 5.d	VII	yes	Vessels obliged to land Norway lobster		All	All	All	All	All	All	Norway Lobster	NEP	6
	46/2018 Article 5.e	VI	yes	Vessels obliged to land Norway lobster		All	All	All	All	All	All	Norway Lobster	NEP	6
Survivability	1393/2014 Article 2	VI	no	pelagic purse seines		PS	All	All	All	All	All	Makereel	MAC	-
	1393/2014 Article 2		no	pelagic purse seines		PS	All	All	All	All	All	Herring	HER	-
	190/2018 Article 2	VIIe - VIIf	no	ring net fishery targeting pelagic		LA	All	All	All	All	All	Makereel	MAC	-
	190/2018 Article 2	VIIe - VIIf	no	ring net fishery targeting pelagic		LA	All	All	All	All	All	Herring	HER	-
	46/2018 Article 4.1.a	VI-VII	no	Pots,traps,creel	FPO-FIX	FPO-FPN	All	All	All	All	All	Norway Lobster	NEP	-
	46/2018 Article 4.1.b	VIId	no	Otter trawls	OTT,OTB,TBS,TBN,TB,PTB,OT,PT,TX	OTT-OTB-OTM	80-99	80D100	VL0010	All	All	Sole	SOL	-

**Table 3.4.3.5. Landings and unwanted catch reported by MS to FDI data call for the fleets under exemptions in North Western Waters, 2015-2017**

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
Deminimis	1393/2014 Article 3.a	Vb-VI-VII	OTM-PTM	All	All	All	SPF-SLP	Blue whiting	2015	DEU	21694.0	0.0	97%
									2015	DNK	44000.7	n.a.	n.a.
									2015	ENG	6.3	n.a.	n.a.
									2015	FRA	0.0	n.a.	n.a.
									2015	IRL	24758.6	n.a.	n.a.
									2015	NIR	1119.4	n.a.	n.a.
									2015	NLD	56067.1	193.3	100%
									2015	SCO	26960.9	n.a.	n.a.
									2015 Total	Total	174607.0	193.3	44%
		Vb-VI-VII	OTM-PTM	All	All	All	SPF-SLP	Blue whiting	2016	DEU	12648.6	10.8	53%
									2016	DNK	37210.0	n.a.	n.a.
									2016	ENG	1272.5	n.a.	n.a.
									2016	IRL	26532.7	n.a.	n.a.
									2016	NLD	41951.9	760.3	100%
									2016	SCO	36896.0	n.a.	n.a.
									2016 Total	Total	156511.7	771.1	31%
		Vb-VI-VII	OTM-PTM	All	All	All	SPF-SLP	Blue whiting	2017	DEU	32650.8	0.0	100%
									2017	DNK	60794.7	n.a.	n.a.
									2017	ENG	3332.0	n.a.	n.a.
									2017	IRL	43228.9	n.a.	n.a.
									2017	LTU	c	n.a.	n.a.
									2017	NLD	68072.4	n.a.	n.a.



Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings								
												Weight, tonnes	Coverage % of total landings							
									2017	POL	c	n.a.	n.a.							
									2017	SCO	55661.8	n.a.	n.a.							
									2017	SWE	0.1	n.a.	n.a.							
									2017 Total	Total	284760.0	0.0	11%							
Deminimis	1393/2014 Article 3.b	VII	PTM	All	All	All	LPF-FIF	Albacore tuna	2015	FRA	1951.5	n.a.	n.a.							
									2015	IRL	1524.0	n.a.	n.a.							
									2015 Total	Total	3475.5	n.a.	n.a.							
									2016	FRA	551.4	n.a.	n.a.							
		VII	PTM	All	All	All	LPF-FIF	Albacore tuna	2016	IRL	1517.5	n.a.	n.a.							
									2016 Total	Total	2068.9	n.a.	n.a.							
									VII	PTM	All	All	All	LPF-FIF	Albacore tuna	2017	FRA	95.4	n.a.	n.a.
																2017	IRL	c	c	c
		2017 Total	Total	264.7	n.a.	n.a.														
		Deminimis	1393/2014 Article 3.c	VIIId	OTM-PTM	All	VL0010 - VL1012 - VL1218 - VL1824	All	All	Mackerel	2015	FRA	503.8	n.a.	n.a.					
2015 Total	Total										503.8	n.a.	n.a.							
Horse Mackerel	2015									FRA	15.0	n.a.	n.a.							
	2015 Total									Total	15.0	n.a.	n.a.							
Herring	2015									FRA	1.5	n.a.	n.a.							
	2015 Total									Total	1.5	n.a.	n.a.							
Whiting	2015									FRA	24.2	n.a.	n.a.							
	2015 Total									Total	24.2	n.a.	n.a.							
VIIId	OTM-PTM			All	VL0010 -	All	All	Mackerel	2016	FRA	418.6	n.a.	n.a.							
									2016 Total	Total	418.6	n.a.	n.a.							

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
					VL1012 - VL1218 - VL1824			Horse Mackerel	2016	<b>FRA</b>	<b>49.0</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>49.0</b>	n.a.	n.a.
								Herring	2016	<b>FRA</b>	<b>28.8</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>28.8</b>	n.a.	n.a.
								Whiting	2016	<b>FRA</b>	<b>3.4</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>3.4</b>	n.a.	n.a.
Deminimis	1393/2014 Article 3.d	VI-VII	OTM	All	All	All	SPF-SLP	Boarfish	2015	<b>DEU</b>	<b>0.1</b>	n.a.	n.a.
									2015	<b>DNK</b>	<b>22.7</b>	n.a.	n.a.
									2015	<b>IRL</b>	<b>4010.1</b>	n.a.	n.a.
									2015 Total	<b>Total</b>	<b>4032.9</b>	n.a.	n.a.
		VI-VII	OTM	All	All	All	SPF-SLP	Boarfish	2016	<b>DNK</b>	<b>409.5</b>	n.a.	n.a.
									2016	<b>IRL</b>	<b>1027.8</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>1437.3</b>	n.a.	n.a.
Deminimis	2375/2016 Article 3.a	VIIId-VIIe	OTB-OTT-PTB-SDN-SPR-SSC-SV	00D16-16D32-32D70-70D80-80D100	All	All	All	Whiting	2017	<b>ENG</b>	<b>1.4</b>	n.a.	n.a.
									2017	<b>FRA</b>	<b>22.2</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>23.6</b>	n.a.	n.a.
		VIIId-VIIe	OTM-PTM	All	All	All	All	Whiting	2017	<b>DEU</b>	<b>0.4</b>	0.0	100%
									2017	<b>ENG</b>	<b>19.2</b>	0.0	4%
									2017	<b>FRA</b>	<b>221.4</b>	n.a.	n.a.
									2017	<b>GBJ</b>	<b>4.7</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>4.7</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>250.4</b>	0.0	1%
									2017	<b>ENG</b>	<b>6.9</b>	n.a.	n.a.
Deminimi	2375/2016	VIIb-VIIj	OTB-	100D110	All	All	All	Whiting	2017	<b>ENG</b>	<b>6.9</b>	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
s	Article 3.b		OTT-PTB-SDN-SPR-SSC-SV	-110D120-120DXX					2017	<b>FRA</b>	<b>822.2</b>	n.a.	n.a.
									2017	<b>IRL</b>	<b>3868.7</b>	27.0	8%
									2017	<b>NIR</b>	<b>12.8</b>	n.a.	n.a.
									2017	<b>SCO</b>	<b>7.4</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>4718.1</b>	27.0	6%
			OTM-PTM	All	All	All	All	Whiting	2017	<b>FRA</b>	<b>20.8</b>	n.a.	n.a.
									2017	<b>IRL</b>	<b>296.7</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>16.5</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>334.0</b>	n.a.	n.a.
									2017	<b>FRA</b>	<b>0.1</b>	n.a.	n.a.
Deminimis	2375/2016 Article 3.c	VII except VIIa,d and e	OTB-OTT-PTB-SDN-SPR-SSC-SV	00D16-16D32-32D70-70D80-80D100	All	All	All	Whiting	2017	<b>IRL</b>	<b>0.3</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>0.4</b>	n.a.	n.a.
									2017	<b>FRA</b>	<b>20.8</b>	n.a.	n.a.
			OTM-PTM	All	All	All	All	Whiting	2017	<b>IRL</b>	<b>296.7</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>16.5</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>334.0</b>	n.a.	n.a.
									2017	<b>ENG</b>	<b>302.3</b>	9.1	57%
			GND-GNS-GNC-GTR-GTN	All	All	All	All	Sole	2017	<b>FRA</b>	<b>795.0</b>	n.a.	n.a.
									2017	<b>IRL</b>	<b>c</b>	n.a.	n.a.
									2017	<b>SCO</b>	<b>0.0</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>1097.5</b>	9.1	16%
Deminimis	2375/2016 Article 3.g	VIId,VIIe,VII f,VII g and VIIh	TBB	80D100-100D110-	All	TBBFP	All	Sole	2017	<b>BEL</b>	<b>1330.3</b>	86.0	91%
									2017 Total	<b>Total</b>	<b>1330.3</b>	86.0	91%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
				110D120									
Deminimis	2438/2015 Article 3.1.a	VIId-VIIe-VIIIf-VIIg	GND-GNS-GNC-GTR-GTN	All	All	All	All	Sole	2016	ENG	279.8	30.5	59%
									2016	FRA	912.1	n.a.	n.a.
									2016	SCO	0.0	n.a.	n.a.
									2016 Total	Total	1191.9	30.5	14%
Deminimis	2438/2015 Article 3.1.b	VIId and VIIe	OTB-OTT-PTB-OTM	00D16-16D32-32D70-70D80-80D100	All	All	All	Whiting	2016	DEU	0.3	n.a.	n.a.
									2016	ENG	36.4	54.4	15%
									2016	FRA	32.5	n.a.	n.a.
									2016	NLD	5.5	0.0	100%
									2016 Total	Total	74.7	54.4	14%
Deminimis	2438/2015 Article 3.1.c	VIIb to VIIj	OTB-OTT-PTB-OTM	100D110 - 110D120 - 120DXX	All	All	All	Whiting	2016	ENG	5.3	n.a.	n.a.
									2016	FRA	1405.3	n.a.	n.a.
									2016	IRL	2354.3	n.a.	n.a.
									2016	NIR	4.4	n.a.	n.a.
									2016	SCO	8.5	n.a.	n.a.
									2016 Total	Total	3777.9	n.a.	n.a.
Deminimis	2438/2015 Article 3.1.d	VII except VIIa,d and e	OTB-OTT-PTB-OTM	00D16-16D32-32D70-70D80-80D100	All	All	All	Whiting	2016	FRA	0.0	n.a.	n.a.
									2016	IRL	11.2	n.a.	n.a.
									2016	NLD	7.6	0.8	100%
									2016 Total	Total	18.8	0.8	40%
Deminimis	2438/2015 Article 3.1.g	VIId,VIIe,VIIIf and VIIg	TBB	80D100-100D110 - 110D120	All	TBBFP	All	Sole	2016	BEL	1363.2	69.7	100%
									2016 Total	Total	1363.2	69.7	100%

**Table 3.4.3.6. Landings and unwanted catch reported by MS to FDI data call for the fleets under exemptions in North Western Waters in 2018, 2017 data**

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
Deminimis	190/2018 Article 3a.a	Vb-VI-VII	OTM-PTM	All	All	All	SPF-SLP	Blue whiting	2017	DEU	32650.8	0.0	100%
									2017	DNK	60794.7	n.a.	n.a.
									2017	ENG	3332.0	n.a.	n.a.
									2017	IRL	43228.9	n.a.	n.a.
									2017	LTU	c	n.a.	n.a.
									2017	NLD	68072.4	n.a.	n.a.
									2017	POL	c	n.a.	n.a.
									2017	SCO	55661.8	n.a.	n.a.
									2017	SWE	0.1	n.a.	n.a.
									2017 Total	Total	284760.0	0.0	11%
Deminimis	190/2018 Article 3a.b	VII	PTM	All	All	All	LPF-FIF	Albacore tuna	2017	FRA	95.4	n.a.	n.a.
									2017	IRL	c	c	c
									2017 Total	Total	264.7	n.a.	n.a.
Deminimis	190/2018 Article 3a.c	VIId	OTM-PTM	All	VL0010-VL1012-VL1218-VL1824	All	All	Mackerel	2017	FRA	1817.3	n.a.	n.a.
									2017 Total	Total	1817.3	n.a.	n.a.
								Horse Mackerel	2017	FRA	56.6	n.a.	n.a.
									2017 Total	Total	56.6	n.a.	n.a.
								Herring	2017	FRA	7.2	n.a.	n.a.
									2017 Total	Total	7.2	n.a.	n.a.
								Whiting	2017	FRA	49.1	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2017 Total	<b>Total</b>	<b>49.1</b>	n.a.	n.a.
Deminimis	46/2018 Article 5.a	VIIId-VIIe	OTB-OTT-PTB-SDN-SPR-SSC-SV	00D16-16D32-32D70-70D80-80D100	All	All	All	Whiting	2017	<b>ENG</b>	<b>1.4</b>	n.a.	n.a.
									2017	<b>FRA</b>	<b>22.2</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>23.6</b>	n.a.	n.a.
			OTM-PTM	All	All	All	All	Whiting	2017	<b>DEU</b>	<b>0.4</b>	0.0	100%
									2017	<b>ENG</b>	<b>19.2</b>	0.0	4%
									2017	<b>FRA</b>	<b>221.4</b>	n.a.	n.a.
									2017	<b>GBJ</b>	<b>4.7</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>4.7</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>250.4</b>	0.0	1%
Deminimis	46/2018 Article 5.b	VIIb to VIIj	OTB-OTT-PTB-SDN-SPR-SSC-SV	100D110-110D120-120DXX	All	All	All	Whiting	2017	<b>ENG</b>	<b>6.9</b>	n.a.	n.a.
									2017	<b>FRA</b>	<b>822.2</b>	n.a.	n.a.
									2017	<b>IRL</b>	<b>3868.7</b>	27.0	8%
									2017	<b>NIR</b>	<b>12.8</b>	n.a.	n.a.
									2017	<b>SCO</b>	<b>7.4</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>4718.1</b>	27.0	6%
			OTM-PTM	All	All	All	All	Whiting	2017	<b>FRA</b>	<b>20.8</b>	n.a.	n.a.
									2017	<b>IRL</b>	<b>296.7</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>16.5</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>334.0</b>	n.a.	n.a.
Deminimis	46/2018	VII except VIIa,d	OTB-	00D16-	All	All	All	Whiting	2017	<b>FRA</b>	<b>0.1</b>	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
	Article 5.c	and e	OTT-PTB-SDN-SPR-SSC-SV	16D32-32D70-70D80-80D100					2017	<b>IRL</b>	<b>0.3</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>0.4</b>	n.a.	n.a.
			OTM-PTM	All	All	All	All	Whiting	2017	<b>FRA</b>	<b>20.8</b>	n.a.	n.a.
									2017	<b>IRL</b>	<b>296.7</b>	n.a.	n.a.
									2017	<b>NLD</b>	<b>16.5</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>334.0</b>	n.a.	n.a.
									2017	<b>ENG</b>	<b>302.3</b>	9.1	57%
Deminimis	46/2018 Article 5.f	VIIId-VIIe-VIIIf-VIIg	GND-GNS-GNC-GTR-GTN	All	All	All	All	Sole	2017	<b>FRA</b>	<b>795.0</b>	n.a.	n.a.
									2017	<b>IRL</b>	<b>c</b>	c	c
									2017	<b>SCO</b>	<b>0.0</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>1097.5</b>	9.1	16%
									2017	<b>BEL</b>	<b>1330.3</b>	86.0	91%
Deminimis	46/2018 Article 5.g	VIIId,VIIe,VIIIf,VIIg and VIIh	TBB	80D100-100D110-110D120	All	TBBFP	All	Sole	2017 Total	<b>Total</b>	<b>1330.3</b>	86.0	91%

### 3.4.4 South Western waters discard plans for 2015-2018

**Table 3.4.4.1. South Western Waters discard plans for 2015.**

2015											
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	CPECON	get Assemb	Species	Species codes	Procent/MCRS
Deminimis	1394/2014 Article 3.a	VIII	yes	industrial pelagic trawls		OTM-PTM	All	SPF-SLP	Blue whiting	WHB	7
	1394/2014 Article 3.b		yes	midwater pair trawl	PTM	PTM	All	LPF-FIF	Albacore tuna	ALB	
	1394/2014 Article 3.c		yes	pelagic trawls		OTM-PTM	All	SPF	Anchovy	ANE	5
	1394/2014 Article 3.c		yes			OTM-PTM	All	SPF	Mackerel	MAC	
	1394/2014 Article 3.c		yes			OTM-PTM	All	SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1394/2014 Article 3.b	VIII-IX-X-CECAF 34.1.1-34.1.2-34.2.0	yes	purse seines		PS	All	SPF	Anchovy	ANE	2
	1394/2014 Article 3.b		yes			PS	All	SPF	Mackerel	MAC	5
	1394/2014 Article 3.b		yes			PS	All	SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
Survivability	1394/2014 Article 2	VIII-IX-X-CECAF 34.1.1-34.1.2-34.2.0	no	artisanal purse seine		SB	All	All	Anchovy	ANE	-
	1394/2014 Article 2		no			SB	All	All	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	-
	1394/2014 Article 2		no			SB	All	All	Jack Mackerel	JAA	-
	1394/2014 Article 2		no			SB	All	All	Mackerel	MAC	-
MCRS	1394/2014 Article 4	IX-CECAF 34.1.2	no	All	All	All			Anchovy	ANE	9



**Table 3.4.4.2. South Western Waters discard plans for 2016.**

2016														
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	FDI Mesh size	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	1394/2014 Article 3.a	VIII	yes	industrial pelagic trawls		OTM-PTM	All	All	All	All	SPF-SLP	Blue whiting	WHB	7
	1394/2014 Article 3.b		yes	midwater pair trawl	PTM	PTM	All	All	All	All	LPF-FIF	Albacore tuna	ALB	
	1394/2014 Article 3.c		yes	pelagic trawls		OTM-PTM	All	All	All	All	SPF	Anchovy	ANE	5
	1394/2014 Article 3.c		yes			OTM-PTM	All	All	All	All	SPF	Mackerel	MAC	
	1394/2014 Article 3.c		yes			OTM-PTM	All	All	All	All	SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1394/2014 Article 3.b	VIII-IX-X-CECAF 34.1.1-34.1.2-34.2.0	yes	purse seines		PS	All	All	All	All	SPF	Anchovy	ANE	2
	1394/2014 Article 3.b		yes			PS	All	All	All	All	SPF	Mackerel	MAC	5
	1394/2014 Article 3.b		yes			PS	All	All	All	All	SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	2015/2439 Article 3.1.a	VIIIa-VIIIb	yes	Beam and bottom trawls	TBB-OTB-OTT-PTB-TBN-TBS-TB-OT-PT-TX	TBB-OTB-OTT-PTB	70-100 mm	All	All	All	All	Sole	SOL	5
	2015/2439 Article 3.1.b		yes	Trammel and gill nets	GNS-GN-GND-GNC-GTN-GTR-GEN	GNS-GND-GNC-GTN-GTR	>= 100 mm	All	All	All	All			3
Survivability	2015/2439 Article 3.1.c	VIII-IX	yes	Trawls	OTT-OTB-PTB-OT-PT-TBN-TBS-TX-SSC-SPR-TB-SDN-SX-SV	OTT-OTB-PTB-OTM-PTM-SDN-SPR-SSC-SV	>= 70 mm	All	All	All	All	Hake	HKE	7
	1394/2014 Article 2	VIII-IX-X-CECAF 34.1.1-34.1.2-34.2.0	no	artisanal purse seine		SB	All	All	All	All	All	Anchovy	ANE	
	1394/2014 Article 2		no			SB	All	All	All	All	All	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	-
	1394/2014 Article 2		no			SB	All	All	All	All	All	Jack Mackerel	JAA	-
	1394/2014 Article 2		no			SB	All	All	All	All	All	Mackerel	MAC	-
	2015/2439 Article 2.1	VIII-IX	no	Trawl gear	OTB-OTT-PTB-TBN-TBS-TB-OT-PT-TX	OTB-OTT-PTB-OTM-PTM	>= 70mm	All	All	All	All	Norway Lobster	NEP	All
MCRS	1394/2014 Article 4	IX-CECAF 34.1.2	no	All	All	All		All	All			Anchovy	ANE	9

**Table 3.4.4.3. South Western Waters discard plans for 2017.**

2017														
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	FDI Mesh size	Vessel lenght	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	1394/2014 Article 3.a	VIII	yes	industrial pelagic trawl fishery		OTM-PTM	All	All	All	All	SPF-SLP	Blue whiting	WHB	6
	1394/2014 Article 3.b		yes	midwater pair trawl	PTM	PTM	All	All	All	All	LPF-FIF	Albacore tuna	ALB	
	1394/2014 Article 3.c		yes	pelagic trawls		OTM-PTM	All	All	All	All	SPF	Anchovy	ANE	4
	1394/2014 Article 3.c		yes			OTM-PTM	All	All	All	All	SPF	Mackerel	MAC	
	1394/2014 Article 3.c		yes			OTM-PTM	All	All	All	All	SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1394/2014 Article 3.b	VIII-IX-X-CECAF 34.1.1-34.1.2-34.2.0	yes	purse seines		PS	All	All	All	All	SPF	Anchovy	ANE	4
	1394/2014 Article 3.b		yes			PS	All	All	All	All	SPF	Mackerel	MAC	
	1394/2014 Article 3.b		yes			PS	All	All	All	All	SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	2016/2374 Article 3.1.b	VIIIa-VIIIb	yes	Beam and bottom trawls	TBB-OTB-OTT-PTB-TBN-TBS-TB-OT-PT-TX	TBB-OTB-OTT-PTB	70-100 mm	All	All	All	All	Sole	SOL	5
	2016/2374 Article 3.1.c		yes	Trammel and gill nets	GNS-GN-GND-GNC-GTN-GTR-GEN	GNS-GND-GNC-GTN-GTR	>= 100 mm	All	All	All	All			3
	2016/2374 Article 3.1.a	VIII-IX	yes	Trawls and seins	OTT-OTB-PTB-OT-PT-TBN-TBS-TX-SSC-SPR-TB-SDN-SX-SV	OTT-OTB-PTB-OTM-PTM-SDN-SPR-SSC-SV	All	All	All	All	All	Hake	HKE	7
Survivability	1394/2014 Article 2	VIII-IX-X-CECAF 34.1.1-34.1.2-34.2.0	no	artisanal purse seine		SB	All	All	All	All	All	Anchovy	ANE	-
	1394/2014 Article 2		no			SB	All	All	All	All	All	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	-
	1394/2014 Article 2		no			SB	All	All	All	All	All	Jack Mackerel	JAA	-
	1394/2014 Article 2		no			SB	All	All	All	All	All	Mackerel	MAC	-
	2016/237 Article 2	VIII-IX	no	Trawl gear	OTB-OTT-PTB-TBN-TBS-TB-OT-PT-TX	OTB-OTT-PTB-OTM-PTM	>= 70mm	All	All	All	All	Norway Lobster	NEP	All
MCRS	1394/2014 Article 4	IX-CECAF 34.1.2	no	All	All	All		All	All			Anchovy	ANE	9

**Table 3.4.4.4. South Western Waters discard plans for 2018.**

		2018												
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	h size regula	Vessel lenght	SPECON	arget Assemblag	Species	Species codes	Procent/MCRS
Deminimis	2018/188 Article 3.a	VIII	yes	industrial pelagic trawl fishery		OTM-PTM	All	All	All	All	SPF-SLP	Blue whiting	WHB	6
	2018/188 Article 3.b		yes	midwater pair trawl	PTM	PTM	All	All	All	All	LPF-FIF	Albacore tuna	ALB	
	2018/188 Article 3.c		yes	pelagic trawls (midwater trawls)	OTM	OTM	All	All	All	All	SPF	Anchovy	ANE	4
	2018/188 Article 3.c		yes		OTM	OTM	All	All	All	All	SPF	Mackerel	MAC	
	2018/188 Article 3.c		yes		OTM	OTM	All	All	All	All	SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	2018/188 Article 3.d	VIII-IX-X-CECAF 34.1.1-34.1.2-34.2.0	yes	purse seines	PS	PS	All	All	All	All	SPF	Anchovy	ANE	1
	2018/188 Article 3.d		yes		PS	PS	All	All	All	All	SPF	Mackerel	MAC	4
	2018/188 Article 3.d		yes		PS	PS	All	All	All	All	SPF	Horse mackerel and jack mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	2016/2374 Article 3.1.b	VIIIa-VIIIb	yes	eam and bottom trawl	TBB-OTB-OTT-PTB-TBN-TBS-TB-OT-PT-TX	TBB-OTB-OTT-PTB	70-100 mm	All	All	All	All	Sole	SOL	5
	2016/2374 Article 3.1.c		yes	Trammel and gill nets	GNS-GN-GND-GNC-GTN-GTR-GEN	GNS-GND-GNC-GTN-GTR	>= 100 mm	All	All	All	All			3
Survivability	2018/44 Article 3.a	VIII-IX	yes	Trawls and seines	OTT-OTB-PTB-OT-PT-TBN-TBS-TX-SSC-SPR-TB-SDN-SX-SV	OTT-OTB-PTB-OTM-PTM-SDN-SPR-SSC-SV	All	All	All	All	All	Hake	HKE	6
	2018/188 Article 2	VIII-IX-X-CECAF 34.1.1-34.1.2-34.2.0	no	artisanal purse seine	-	SB	All	All	All	All	All	Anchovy	ANE	-
	2018/188 Article 2		no		-	SB	All	All	All	All	All	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	-
	2018/188 Article 2		no		-	SB	All	All	All	All	All	Jack Mackerel	JAA	-
	2018/188 Article 2		no		-	SB	All	All	All	All	All	Mackerel	MAC	-
MCRS	2018/188 Article 4	IX-CECAF 34.1.2	no	All	All	All	All	All	All	All	All	Anchovy	ANE	9
	2018/188 Article 4	VIIIc, IX	no	All	All	All	All	All	All	All	All	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	

**Table 3.4.4.5. Landings and unwanted catch reported by MS to FDI data call for the fleets under exemptions in South Western Waters, 2015-2017**

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
Deminimis	1394/2014 Article 3.a	VIII	OTM-PTM	All	All	All	SPF-SLP	Blue whiting	2015	<b>FRA</b>	<b>1.1</b>	n.a.	n.a.
									2015 Total	<b>Total</b>	<b>1.1</b>	n.a.	n.a.
		VIII	OTM-PTM	All	All	All	SPF-SLP	Blue whiting	2016	<b>ENG</b>	<b>1.5</b>	n.a.	n.a.
									2016	<b>FRA</b>	<b>0.4</b>	n.a.	n.a.
									2016	<b>NLD</b>	<b>1049.6</b>	0.0	100%
									2016 Total	<b>Total</b>	<b>1051.4</b>	0.0	100%
Deminimis	1394/2014 Article 3.b	VIII	PTM	All	All	All	LPF-FIF	Albacore tuna	2015	<b>FRA</b>	<b>1079.3</b>	n.a.	n.a.
									2015	<b>IRL</b>	<b>c</b>	c	c
									2015 Total	<b>Total</b>	<b>c</b>	c	c
Deminimis	1394/2014 Article 3.d	VIII-IX-X-CECAF 34.1.1-34.1.2-34.2.0	PS	All	All	All	SPF	Anchovy	2015	<b>ESP</b>	<b>12416.3</b>	137.1	16%
									2015	<b>FRA</b>	<b>1512.9</b>	n.a.	n.a.
									2015	<b>PRT</b>	<b>2919.4</b>	3.7	100%
									2015 Total	<b>Total</b>	<b>16848.6</b>	140.9	29%
								Mackerel	2015	<b>ESP</b>	<b>8166.0</b>	19.1	4%
									2015	<b>FRA</b>	<b>252.4</b>	n.a.	n.a.
									2015	<b>PRT</b>	<b>760.0</b>	5.6	100%
									2015 Total	<b>Total</b>	<b>9178.3</b>	24.7	11%
								Horse Mackerel	2015	<b>ESP</b>	<b>2732.6</b>	224.8	40%
									2015	<b>FRA</b>	<b>1302.1</b>	n.a.	n.a.
									2015	<b>PRT</b>	<b>9704.7</b>	72.9	100%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2015 Total	<b>Total</b>	<b>13739.4</b>	297.8	79%
Deminimis	1394/2014 Article 3.b	VIII	PTM	All	All	All	LPF-FIF	Albacore tuna	2016	<b>FRA</b>	<b>3409.1</b>	n.a.	n.a.
									2016	<b>IRL</b>	<b>519.1</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>3928.2</b>	n.a.	n.a.
Deminimis	1394/2014 Article 3.d	VIII-IX-X-CECAF 34.1.1-34.1.2-34.2.0	PS	All	All	All	SPF	Anchovy	2016	<b>ESP</b>	<b>23132.5</b>	37.5	27%
									2016	<b>FRA</b>	<b>827.8</b>	n.a.	n.a.
									2016	<b>PRT</b>	<b>7961.5</b>	26.4	100%
									2016 Total	<b>Total</b>	<b>31921.8</b>	63.9	45%
								Mackerel	2016	<b>ESP</b>	<b>7883.4</b>	4.6	8%
									2016	<b>FRA</b>	<b>129.4</b>	n.a.	n.a.
									2016	<b>PRT</b>	<b>16.7</b>	0.0	100%
									2016 Total	<b>Total</b>	<b>8029.6</b>	4.6	8%
								Horse Mackerel	2016	<b>ESP</b>	<b>21062.0</b>	35.4	34%
									2016	<b>FRA</b>	<b>2073.2</b>	n.a.	n.a.
									2016	<b>PRT</b>	<b>7426.5</b>	6.3	100%
									2016 Total	<b>Total</b>	<b>30561.7</b>	41.7	48%
Deminimis	1394/2014 Article 3.b	VIII	PTM	All	All	All	LPF-FIF	Albacore tuna	2017	<b>FRA</b>	<b>3767.4</b>	n.a.	n.a.
									2017	<b>IRL</b>	<b>2314.1</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>6081.5</b>	n.a.	n.a.
Deminimis	1394/2014 Article 3.d	VIII-IX-X-CECAF 34.1.1-34.1.2-34.2.0	PS	All	All	All	SPF	Anchovy	2017	<b>ESP</b>	<b>25966.5</b>	11.1	14%
									2017	<b>FRA</b>	<b>1542.0</b>	n.a.	n.a.
									2017	<b>PRT</b>	<b>9760.4</b>	24.9	100%
									2017 Total	<b>Total</b>	<b>37269.0</b>	35.9	36%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
								Mackerel	2017	ESP	9693.8	3.8	4%
									2017	FRA	91.5	n.a.	n.a.
									2017	PRT	82.6	0.0	100%
									2017 Total	Total	9867.9	3.8	4%
								Horse Mackerel	2017	ESP	21876.7	4.5	0%
									2017	FRA	1921.1	n.a.	n.a.
									2017	PRT	6486.9	18.0	100%
									2017 Total	Total	30284.6	22.4	22%
Deminimis	1394/2014 Article 3.c	VIII	OTM-PTM	All	All	All	SPF	Anchovy	2015	FRA	2416.6	n.a.	n.a.
									2015	NLD	12.5	0.0	100%
									2015 Total	Total	2429.1	0.0	1%
								Mackerel	2015	DEU	4867.0	n.a.	n.a.
									2015	ENG	7293.4	n.a.	n.a.
									2015	FRA	5407.7	n.a.	n.a.
									2015	NLD	1535.0	1.2	100%
									2015 Total	Total	19103.0	1.2	8%
								Horse Mackerel	2015	DEU	49.3	n.a.	n.a.
									2015	ENG	72.1	n.a.	n.a.
									2015	FRA	223.0	n.a.	n.a.
									2015	IRL	c	c	c
									2015	NLD	620.0	7.0	100%
									2015 Total	Total	964.8	7.0	64%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
		VIII	OTM-PTM	All	All	All	SPF	Anchovy	2016	FRA	1259.1	n.a.	n.a.
									2016 Total	Total	1259.1	n.a.	n.a.
								Mackerel	2016	DEU	1266.2	n.a.	n.a.
									2016	ENG	1784.9	n.a.	n.a.
									2016	FRA	2451.4	n.a.	n.a.
									2016	NLD	200.6	3.0	100%
									2016 Total	Total	5703.1	3.0	4%
								Horse Mackerel	2016	DEU	3.9	n.a.	n.a.
									2016	DNK	389.7	n.a.	n.a.
									2016	ENG	9.4	n.a.	n.a.
									2016	FRA	238.3	n.a.	n.a.
									2016	IRL	c	c	c
									2016	NLD	1.2	0.0	100%
									2016 Total	Total	672.5	0.0	0%
		VIII	OTM-PTM	All	All	All	SPF	Anchovy	2017	FRA	854.5	n.a.	n.a.
									2017 Total	Total	854.5	n.a.	n.a.
								Mackerel	2017	DEU	1232.5	n.a.	n.a.
									2017	DNK	2.1	n.a.	n.a.
									2017	ENG	245.1	n.a.	n.a.
									2017	FRA	1593.2	n.a.	n.a.
									2017	IRL	c	c	c
									2017 Total	Total	3075.2	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
								Horse Mackerel	2017	DEU	209.8	n.a.	n.a.
									2017	DNK	1317.9	n.a.	n.a.
									2017	FRA	219.2	n.a.	n.a.
									2017	IRL	579.7	n.a.	n.a.
									2017	NLD	181.0	n.a.	n.a.
									2017 Total	Total	2507.6	0.0	n.a.
Deminimis	2015/2439 Article 3.1.a	VIIIa-VIIIb	TBB-OTB-OTT-PTB	All	All	All	All	Sole	2016	BEL	287.7	6.3	100%
									2016	ESP	8.0	n.a.	n.a.
									2016	FRA	804.4	n.a.	n.a.
									2016 Total	Total	1100.0	6.3	26%
Deminimis	2015/2439 Article 3.1.b	VIIIa-VIIIb	GND-GNS-GNC-GTR-GTN	All	All	All	All	Sole	2016	ESP	0.1	n.a.	n.a.
									2016	FRA	2205.1	n.a.	n.a.
									2016 Total	Total	2205.2	n.a.	n.a.
Deminimis	2015/2439 Article 3.1.c	VIII-IX	OTT-OTB-PTB-OTM-PTM-SDN-SPR-SSC-SV	All	All	All	All	Hake	2016	ENG	0.2	n.a.	n.a.
									2016	ESP	10926.6	2133.6	37%
									2016	FRA	6534.2	n.a.	n.a.
									2016	IRL	c	c	c
									2016	PRT	1133.3	12.4	100%
									2016 Total	Total	18594.5	2146.0	28%
Deminimis	2016/2374 Article 3.1.c	VIII-IX	OTT-OTB-PTB-OTM-	All	All	All	All	Hake	2017	BEL	c	c	c
									2017	DNK	0.2	n.a.	n.a.
									2017	ESP	12677.2	1159.5	23%



Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
			PTM-SDN-SPR-SSC-SV						2017	<b>FRA</b>	<b>6299.6</b>	n.a.	n.a.
									2017	<b>IRL</b>	<b>2.9</b>	n.a.	n.a.
									2017	<b>PRT</b>	<b>821.3</b>	17.6	100%
									2017 Total	<b>Total</b>	<b>19801.2</b>	1177.2	19%
Deminimis	2016/2374 Article 3.1.a	VIIIa-VIIIb	TBB-OTB-OTT-PTB	All	All	All	All	Sole	2017	<b>BEL</b>	<b>262.3</b>	12.1	100%
									2017	<b>ESP</b>	<b>17.1</b>	n.a.	n.a.
									2017	<b>FRA</b>	<b>790.2</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>1069.7</b>	12.1	25%
Deminimis	2016/2374 Article 3.1.b	VIIIa-VIIIb	GND-GNS-GNC-GTR-GTN	All	All	All	All	Sole	2017	<b>FRA</b>	<b>2170.6</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>2170.6</b>	n.a.	n.a.

**Table 3.4.4.6. Landings and unwanted catch reported by MS to FDI data call for the fleets under exemptions in South Western Waters in 2018, 2017 data**

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
Deminimis	2016/2374 Article 3.1.a	VIIIa-VIIIb	TBB-OTB-OTT-PTB	All	All	All	All	Sole	2017	BEL	262.3	12.1	100%
									2017	ESP	17.1	n.a.	n.a.
									2017	FRA	790.2	n.a.	n.a.
									2017 Total	Total	1069.7	12.1	25%
Deminimis	2016/2374 Article 3.1.b	VIIIa-VIIIb	GND-GNS-GNC-GTR-GTN	All	All	All	All	Sole	2017	FRA	2170.6	n.a.	n.a.
									2017 Total	Total	2170.6	n.a.	n.a.
Deminimis	2018/188 Article 3.b	VIII	PTM	All	All	All	LPF-FIF	Albacore tuna	2017	FRA	3767.4	n.a.	n.a.
									2017	IRL	2314.1	n.a.	n.a.
									2017 Total	Total	6081.5	n.a.	n.a.
Deminimis	2018/188 Article 3.c	VIII	OTM	All	All	All	SPF	Mackerel	2017	DEU	1232.5	n.a.	n.a.
									2017	DNK	2.1	n.a.	n.a.
									2017	FRA	480.2	n.a.	n.a.
									2017 Total	Total	1714.8	n.a.	n.a.
								Horse Mackerel	2017	DEU	209.8	n.a.	n.a.
									2017	DNK	1317.9	n.a.	n.a.
									2017	FRA	8.1	n.a.	n.a.
									2017	IRL	c	c	c
									2017	NLD	181.0	n.a.	n.a.
									2017 Total	Total	1877.6	n.a.	n.a.
Deminimis	2018/188 Article 3.d	VIII-IX-X-	PS	All	All	All	SPF	Anchovy	2017	ESP	25966.5	11.1	14%
									2017	FRA	1542.0	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
		CECAF 34.1.1- 34.1.2- 34.2.0							2017	<b>PRT</b>	<b>9760.4</b>	24.9	100%
									2017 Total	<b>Total</b>	<b>37269.0</b>	35.9	36%
								Mackerel	2017	<b>ESP</b>	<b>9693.8</b>	3.8	4%
									2017	<b>FRA</b>	<b>91.5</b>	n.a.	n.a.
									2017	<b>PRT</b>	<b>82.6</b>	0.0	100%
									2017 Total	<b>Total</b>	<b>9867.9</b>	3.8	4%
								Horse mackerel and jack mackerel	2017	<b>ESP</b>	<b>21876.7</b>	4.5	0%
									2017	<b>FRA</b>	<b>1921.1</b>	n.a.	n.a.
									2017	<b>PRT</b>	<b>6486.9</b>	18.0	100%
									2017 Total	<b>Total</b>	<b>30284.6</b>	22.4	22%
Deminimis	2018/44 Article 3.a	VIII-IX	OTT-OTB- PTB-OTM- PTM-SDN- SPR-SSC-SV	All	All	All	All	Hake	2017	<b>BEL</b>	<b>c</b>	c	c
									2017	<b>DNK</b>	<b>0.2</b>	n.a.	n.a.
									2017	<b>ESP</b>	<b>12677.2</b>	1159.5	23%
									2017	<b>FRA</b>	<b>6299.6</b>	n.a.	n.a.
									2017	<b>IRL</b>	<b>2.9</b>	n.a.	n.a.
									2017	<b>PRT</b>	<b>821.3</b>	17.6	100%
									2017 Total	<b>Total</b>	<b>19801.2</b>	1177.2	19%

### 3.4.5 Mediterranean Sea discard plans for 2015-2018

**Table 3.4.5.1. Mediterranean Sea discard plans for 2015.**

		2015 - part 1											
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	Vessel lenght	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	1392/2014 Article 3(a)	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Anchovy	ANE	5
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1392/2014 Article 3(b)	Northern Adriatic Sea (GSA17)	yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Anchovy	ANE	5
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	

**Table 3.4.5.1. Mediterranean Sea discard plans for 2015 (continued).**

		2015 - part 2											
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	Vessel lenght	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	1392/2014 Article 3 (c) ii	Southern Adriatic Sea and Ionian Sea (GSA18-GSA19-GSA20)	yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Anchovy	ANE	7
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1392/2014 Article 3 (c) i		yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	3
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1392/2014 Article 3 (d) ii	Malta Island and Sicily (GSA15-GSA16)	yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Anchovy	ANE	7
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1392/2014 Article 3 (d) i		yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	3
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1392/2014 Article 3 (e)	Argean Sea and Crete Island (GSA22-GSA23)	yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	3
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	

**Table 3.4.5.2. Mediterranean Sea discard plans for 2016.**

2016 - Part 1													
Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS	
Deminimis	1392/2014 Article 3(a)	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Anchovy	ANE	5
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1392/2014 Article 3(b)	Northern Adriatic Sea (GSA17)	yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Anchovy	ANE	5
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	

**Table 3.4.5.2. Mediterranean Sea discard plans for 2016 (Continued).**

		2016 - Part 2												
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	Vessel lenght	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS	
Deminimis	392/2014 Article 3 (c)	Southern Adriatic Sea and Ionian Sea (GSA18-GSA19-GSA20)	yes	pelagic midwater trawls	TM	OTM-PTM	All	All			SPF	Anchovy	ANE	7
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All			SPF	Sardine	PIL	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All			SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All			SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	392/2014 Article 3 (c)		yes	pelagic purse seines	PS	PS	All	All			SPF	Anchovy	ANE	3
			yes	pelagic purse seines	PS	PS	All	All			SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All			SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All			SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	392/2014 Article 3 (d)	Malta Island and Sicily (GSA15-GSA16)	yes	pelagic midwater trawls	TM	OTM-PTM	All	All			SPF	Anchovy	ANE	7
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All			SPF	Sardine	PIL	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All			SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All			SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	392/2014 Article 3 (d)		yes	pelagic purse seines	PS	PS	All	All			SPF	Anchovy	ANE	3
			yes	pelagic purse seines	PS	PS	All	All			SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All			SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All			SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	392/2014 Article 3 (e)	Aegean Sea and Crete Island (GSA22-GSA23)	yes	pelagic purse seines	PS	PS	All	All			SPF	Anchovy	ANE	3
			yes	pelagic purse seines	PS	PS	All	All			SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All			SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All			SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	

**Table 3.4.5.3. Mediterranean Sea discard plans for 2017.**

2017 - Part 1													
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	essel length	SPECON	et Assemb	Species	Species codes	Procent/MCRS
Deminimis	1392/2014 Article 3(a)	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Anchovy	ANE	5
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1392/2014 Article 3(b)	Northern Adriatic Sea (GSA17)	yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Anchovy	ANE	5
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	



**Table 3.4.5.3. Mediterranean Sea discard plans for 2017 (Continued).**

		2017 - Part 2											
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	essel length	SPECON	et Assemb	Species	Species codes	Procent/MCRS
Deminimis	1392/2014 Article 3 (c) ii	Southern Adriatic Sea and Ionian Sea (GSA18-GSA19-GSA20)	yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Anchovy	ANE	7
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1392/2014 Article 3 (c) i		yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	3
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1392/2014 Article 3 (d) ii	Malta Island and Sicily (GSA15-GSA16)	yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Anchovy	ANE	7
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	TM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1392/2014 Article 3 (d) i		yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	3
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	1392/2014 Article 3 €	Argean Sea and Crete Island (GSA22-GSA23)	yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	3
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	86/2017, Article 4 (a) i	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	yes	Bottom trawl nets	DTS	OTB-OTT-PTB	All	All		DEF	Hake	HKE	7
			yes	Bottom trawl nets	DTS	OTB-OTT-PTB	All	All		DEF	Red mullet	MUT-MUX-MUM	
	86/2017, Article 4 (a) ii		yes	Gill nets	DFN	GND-GNS-GNC-GTR-GTN	All	All		DEF	Hake	HKE	1
			yes	Gill nets	DFN	GND-GNS-GNC-GTR-GTN	All	All		DEF	Red mullet	MUT-MUX-MUM	

**Table 3.4.5.3. Mediterranean Sea discard plans for 2017 (Continued).**

		2017 - Part 3											
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	essel lengt	SPECON	et Assemb	Species	Species codes	Procent/MCRS
Deminimis	86/2017, Article 4 (b) i	Adriatic Sea (GSA17-GSA18)	yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		DEF	Hake	HKE	7
			yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		DEF	Red mullet	MUT-MUX-MUM	
	86/2017, Article 4 (b) ii		yes	Gill nets	DFN	GND-GNS-GNC-GTR-GTN	All	All		DEF	Hake	HKE	1
			yes	Gill nets	DFN	GND-GNS-GNC-GTR-GTN	All	All		DEF	Red mullet	MUT-MUX-MUM	
	86/2017, Article 4 (b) iii		yes	Beam trawl	TBB	TBB	All	All		DEF	Hake	HKE	1
			yes	Beam trawl	TBB	TBB	All	All		DEF	Red mullet	MUT-MUX-MUM	
	86/2017, Article 4 (b) iv		yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		DEF	Sole	SOL	3
	86/2017, Article 4 (b) v		yes	Gill nets	DFN	GND-GNS-GNC-GTR-GTN	All	All		DEF	Sole	SOL	0
	86/2017, Article 4 (c) i	South-eastern Mediterranean Sea (GSA15-GSA16-GSA19-GSA20-GSA22-GSA23-GSA25)	yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		DEF	Hake	HKE	7
			yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		DEF	Red mullet	MUT-MUX-MUM	
	86/2017, Article 4 (c) ii		yes	Gill nets	DFN	GND-GNS-GNC-GTR-GTN	All	All		DEF	Hake	HKE	1
			yes	Gill nets	DFN	GND-GNS-GNC-GTR-GTN	All	All		DEF	Red mullet	MUT-MUX-MUM	
	86/2017, Article 4 (c) iii		yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		CRU	Deep water rose shrimp	DPS	7
Survivability	86/2017, Article 3 (1. a)	GSA17-GSA18	no	Beam trawl	TBB	TBB	All	All		DEF	Sole	SOL	-
	86/2017, Article 3 (1. b)	GSA1-GSA2-GSA5-GSA6 GSA 7 GSA 8 GSA 9 GSA 10 GSA 11.1 GSA 11.2 GSA 12.	no	Mechanised dredges	HMD	HMD	All	All			Scallop	SJA	-
	86/2017, Article 3 (1. c)	GSA1-GSA2-GSA5-GSA6 GSA 7 GSA 8 GSA 9 GSA 10 GSA 11.1 GSA 11.2 GSA 12.	no	Mechanised dredges	HMD	HMD	All	All			Carpet clam	VEN	-
	86/2017, Article 3 (1. d)	GSA1-GSA2-GSA5-GSA6 GSA 7 GSA 8 GSA 9 GSA 10 GSA 11.1 GSA 11.2 GSA 12.	no	Mechanised dredges	HMD	HMD	All	All			Venus shells	CLV	-
MCRS		Italian territorial waters	no								Venus spp		22

**Table 3.4.5.4. Mediterranean Sea discard plans for 2018.**

		2018 - Part 1											
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	Vessel lenght	SPECON	arget Assemblag	Species	Species codes	Procent/MCRS
Deminimis	161/2018 Article 3(1) Annex I (1)	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	yes	pelagic midwater trawls	OTM-PTM	OTM-PTM	All	All		SPF	Anchovy	ANE	5
			yes	pelagic midwater trawls	OTM-PTM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	OTM-PTM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	OTM-PTM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	yes		pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE		
	yes		pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL		
	yes		pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC		
	yes		pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ		
	161/2018 Article 3(1) Annex III (1)	Adriatic Sea (GSA17-GSA18)	yes	pelagic midwater trawls	OTM-PTM	OTM-PTM	All	All		SPF	Anchovy	ANE	5
			yes	pelagic midwater trawls	OTM-PTM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	OTM-PTM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	OTM-PTM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	161/2018 Article 3(1) Annex III (2)	Adriatic Sea (GSA17)	yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	Article 161/2018 (1) Annex II (1)	South Eastern Mediterranean Sea GSA15 GSA16 GSA19 GSA20 GSA22 GSA23, GSA25	yes	pelagic midwater trawls	OTM-PTM	OTM-PTM	All	All		SPF	Anchovy	ANE	5
			yes	pelagic midwater trawls	OTM-PTM	OTM-PTM	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	OTM-PTM	OTM-PTM	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	OTM-PTM	OTM-PTM	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	

**Table 3.4.5.4. Mediterranean Sea discard plans for 2018 (Continued).**

	Exemption Article	2018 - Part 2											
		Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	Vessel length	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	161/2018 Article 3(1) Annex II (2)	South Eastern Mediterranean Sea GSA 25	yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	5
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC	
	161/2018 Article 3(2) Annex IV	Malta Island and South of Sicily (GSA15-GSA16)	yes	pelagic midwater trawls	PS	PS	All	All		SPF	Anchovy	ANE	5
			yes	pelagic midwater trawls	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	161/2018 Article 3(2) Annex V	Southern Aegean Sea and Crete Island (GSA22-GSA23)	yes	pelagic midwater trawls	PS	PS	All	All		SPF	Anchovy	ANE	5
			yes	pelagic midwater trawls	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic midwater trawls	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic midwater trawls	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	161/2018 Article 3 (2) Annex VI	Southern Adriatic Sea and Ionian Sea (GSA18-GSA19-GSA20)	yes	pelagic purse seines	PS	PS	All	All		SPF	Anchovy	ANE	3
			yes	pelagic purse seines	PS	PS	All	All		SPF	Sardine	PIL	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Mackerel	MAC	
			yes	pelagic purse seines	PS	PS	All	All		SPF	Horse Mackerel	HMM-JAX-HOM-HMC-HMZ-HMG-TUZ	
	86/2017, Article 4 (a) i, 153/2018 (1) 3	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	yes	Bottom trawls	DTS	OTB-OTT-PTB	All	All		DEF	Hake	HKE	7
			yes	Bottom trawls	DTS	OTB-OTT-PTB	All	All		DEF	Red mullet	MUT-MUX-MUM	
	86/2017, Article 4 (a) ii, 153/2018 (1) 3	GSA10-GSA11.1-GSA11.2-GSA12)	yes	Gill nets and and trammel nets	DFN	ND-GNS-GNC-GTR-GT	All	All		DEF	Hake	HKE	1
			yes	Gill nets and and trammel nets	DFN	ND-GNS-GNC-GTR-GT	All	All		DEF	Red mullet	MUT-MUX-MUM	
	86/2017, Article 4 (b) i	Adriatic Sea (GSA17-GSA18)	yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		DEF	Hake	HKE	7
			yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		DEF	Red mullet	MUT-MUX-MUM	

**Table 3.4.5.4. Mediterranean Sea discard plans for 2018 (Continued).**

		2018 - Part 3											
	Exemption Article	Area	Possible or not	Fishing Techniques	Gear code	FDI gear code	Mesh size	Vessel lenght	SPECON	Target Assemblage	Species	Species codes	Procent/MCRS
Deminimis	86/2017, Article 4 (b) ii	Adriatic Sea (GSA17-GSA18)	yes	Gill nets	DFN	ND-GNS-GNC-GTR-GT	All	All		DEF	Hake	HKE	1
			yes	Gill nets	DFN	ND-GNS-GNC-GTR-GT	All	All		DEF	Red mullet	MUT-MUX-MUM	
	86/2017, Article 4 (b) iii		yes	Beam trawl	TBB	TBB	All	All		DEF	Hake	HKE	1
			yes	Beam trawl	TBB	TBB	All	All		DEF	Red mullet	MUT-MUX-MUM	
	86/2017, Article 4 (b) iv		yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		DEF	Sole	SOL	3
	86/2017, Article 4 (b) v		yes	Gill nets	DFN	ND-GNS-GNC-GTR-GT	All	All		DEF	Sole	SOL	0
	86/2017, Article 4 (c) i	South-eastern Mediterranean Sea (GSA15-GSA16-GSA19-GSA20-GSA22-GSA23-GSA25)	yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		DEF	Hake	HKE	7
			yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		DEF	Red mullet	MUT-MUX-MUM	
	86/2017, Article 4 (c) ii		yes	Gill nets	DFN	ND-GNS-GNC-GTR-GT	All	All		DEF	Hake	HKE	1
			yes	Gill nets	DFN	ND-GNS-GNC-GTR-GT	All	All		DEF	Red mullet	MUT-MUX-MUM	
	86/2017, Article 4 (c) iii		yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		CRU	Deep water rose shrimp	DPS	7
	Article 86/2017 (4) c	South-eastern Mediterranean Sea (GSA15-GSA16-GSA22-GSA23)	yes	Trawl nets	DTS	OTB-OTT-PTB-OTM	All	All		DEF	Hake	HKE	7
Survavability	153/2018, Article 3 (1. a) of 86/2017	GSA17-GSA18	no	Beam trawl	TBB	TBB	All	All		DEF	Sole	SOL	-
	153/2018, Article 3 (1. b) of 86/2017	GSA1-GSA2-GSA5-GSA6 GSA 7 GSA 8 GSA 9 GSA 10 GSA 11.1 GSA 11.2 GSA 12.	no	Mechanised dredges	HMD	HMD	All	All			Scallop	SJA	-
	153/2018, Article 3 (1. c) of 86/2017	GSA1-GSA2-GSA5-GSA6 GSA 7 GSA 8 GSA 9 GSA 10 GSA 11.1 GSA 11.2 GSA 12.	no	Mechanised dredges	HMD	HMD	All	All			Carpet clam	VEN	-
	153/2018, Article 3 (1. d) of 86/2017	GSA1-GSA2-GSA5-GSA6 GSA 7 GSA 8 GSA 9 GSA 10 GSA 11.1 GSA 11.2 GSA 12.	no	Mechanised dredges	HMD	HMD	All	All			Venus shells	CLV	-
	153/2018, Article 3 (1. e) of 86/2017	GSA1-GSA2-GSA5-GSA6 GSA 7 GSA 8 GSA 9 GSA 10 GSA 11.1 GSA 11.2 GSA 12.	no	bottom trawls	OTB, OTT, PTB, TBN, TBS, TB, OT, PT, TX	OTB-OTT-PTB	All	All			Norway Lobster	NEP	-

**Table 3.4.5.5. Landings and unwanted catch reported by MS to FDI data call for the fleets under exemptions in the Mediterranean Sea region, 2015-2017**

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings Weight, tonnes	Coverage % of total landings
Deminimis	1392/2014 Article 3 (c) ii	Southern Adriatic Sea and Ionian Sea (GSA18-GSA19-GSA20)	OTM-PTM	All	All	All	SPF	Anchovy	2015	ITA	4371.1	n.a.	n.a.
									2015 Total	Total	4371.1	n.a.	n.a.
								Sardine	2015	ITA	2462.3	n.a.	n.a.
									2015 Total	Total	2462.3	n.a.	n.a.
								Mackerel	2015	ITA	259.0	n.a.	n.a.
									2015 Total	Total	259.0	n.a.	n.a.
		Southern Adriatic Sea and Ionian Sea (GSA18-GSA19-GSA20)	OTM-PTM	All	All	All	SPF	Horse Mackerel	2015	ITA	0.9	n.a.	n.a.
									2015 Total	Total	0.9	n.a.	n.a.
								Anchovy	2016	ITA	3691.6	n.a.	n.a.
									2016 Total	Total	3691.6	n.a.	n.a.
								Sardine	2016	ITA	2099.1	n.a.	n.a.
									2016 Total	Total	2099.1	n.a.	n.a.
								Mackerel	2016	ITA	98.8	n.a.	n.a.
									2016 Total	Total	98.8	n.a.	n.a.
		Southern Adriatic Sea and Ionian Sea (GSA18-GSA19-GSA20)	OTM-PTM	All	All	All	SPF SPF SPF SPF	Horse Mackerel	2016	ITA	4.9	n.a.	n.a.
									2016 Total	Total	4.9	n.a.	n.a.
								Anchovy	2017	ITA	4361.3	n.a.	n.a.
									2017 Total	Total	4361.3	n.a.	n.a.
								Sardine	2017	ITA	948.3	n.a.	n.a.
									2017 Total	Total	948.3	n.a.	n.a.
								Mackerel	2017	ITA	53.1	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
									2017 Total	<b>Total</b>	<b>53.1</b>	n.a.	n.a.
								Horse Mackerel	2017	<b>ITA</b>	<b>55.3</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>55.3</b>	n.a.	n.a.
Deminimis	1392/2014 Article 3 (d) i	Malta Island and Sicily (GSA15-GSA16)	PS	All	All	All	SPF	Anchovy	2015	<b>ITA</b>	<b>1206.6</b>	n.a.	n.a.
									2015 Total	<b>Total</b>	<b>1206.6</b>	n.a.	n.a.
								Sardine	2015	<b>ITA</b>	<b>870.0</b>	n.a.	n.a.
									2015	<b>MLT</b>	<b>3.3</b>	n.a.	n.a.
									2015 Total	<b>Total</b>	<b>873.3</b>	n.a.	n.a.
								Mackerel	2015	<b>ITA</b>	<b>28.3</b>	n.a.	n.a.
									2015	<b>MLT</b>	<b>82.8</b>	n.a.	n.a.
									2015 Total	<b>Total</b>	<b>111.0</b>	n.a.	n.a.
								Horse Mackerel	2015	<b>ITA</b>	<b>13.7</b>	n.a.	n.a.
									2015	<b>MLT</b>	<b>19.5</b>	n.a.	n.a.
									2015 Total	<b>Total</b>	<b>33.2</b>	n.a.	n.a.
		Malta Island and Sicily (GSA15-GSA16)	PS PS PS PS	All	All	All	SPF	Anchovy	2016	<b>ITA</b>	<b>1307.7</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>1307.7</b>	n.a.	n.a.
								Sardine	2016	<b>ITA</b>	<b>833.7</b>	n.a.	n.a.
									2016	<b>MLT</b>	<b>c</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>833.7</b>	n.a.	n.a.
								Mackerel	2016	<b>ITA</b>	<b>11.1</b>	n.a.	n.a.
									2016	<b>MLT</b>	<b>139.6</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>150.7</b>	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings Weight, tonnes	Coverage % of total landings
		Malta Island and Sicily (GSA15-GSA16)	PS	All	All	All	SPF	Horse Mackerel	2016	ITA	8.7	n.a.	n.a.
									2016	MLT	19.4	n.a.	n.a.
									2016 Total	Total	28.1	n.a.	n.a.
								Anchovy	2017	ITA	1398.5	n.a.	n.a.
									2017 Total	Total	1398.5	n.a.	n.a.
								Sardine	2017	ITA	220.8	n.a.	n.a.
									2017	MLT	c	n.a.	n.a.
									2017 Total	Total	220.8	n.a.	n.a.
								Mackerel	2017	ITA	120.7	n.a.	n.a.
									2017	MLT	156.6	n.a.	n.a.
									2017 Total	Total	277.3	n.a.	n.a.
		Southern Adriatic Sea and Ionian Sea (GSA18-GSA19-GSA20)	PS	All	All	All	SPF	Horse Mackerel	2017	ITA	23.2	n.a.	n.a.
									2017	MLT	4.2	n.a.	n.a.
									2017 Total	Total	27.3	n.a.	n.a.
								Anchovy	2015	ITA	1636.1	n.a.	n.a.
									2015 Total	Total	1636.1	n.a.	n.a.
								Sardine	2015	ITA	301.4	n.a.	n.a.
									2015 Total	Total	301.4	n.a.	n.a.
		Southern	PS	All	All	All	SPF	Mackerel	2015	ITA	126.2	n.a.	n.a.
									2015 Total	Total	126.2	n.a.	n.a.
								Horse Mackerel	2015	ITA	162.1	n.a.	n.a.
									2015 Total	Total	162.1	n.a.	n.a.
								Anchovy	2016	ITA	2867.2	n.a.	n.a.



Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings Weight, tonnes	Coverage % of total landings
		Adriatic Sea and Ionian Sea (GSA18-GSA19-GSA20)							2016 Total	<b>Total</b>	<b>2867.2</b>	n.a.	n.a.
								Sardine	2016	<b>ITA</b>	<b>615.2</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>615.2</b>	n.a.	n.a.
								Mackerel	2016	<b>ITA</b>	<b>15.7</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>15.7</b>	n.a.	n.a.
								Horse Mackerel	2016	<b>ITA</b>	<b>143.0</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>143.0</b>	n.a.	n.a.
		Southern Adriatic Sea and Ionian Sea (GSA18-GSA19-GSA20)	PS	All	All	All	SPF	Anchovy	2017	<b>ITA</b>	<b>3964.9</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>3964.9</b>	n.a.	n.a.
								Sardine	2017	<b>ITA</b>	<b>1305.1</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>1305.1</b>	n.a.	n.a.
								Mackerel	2017	<b>ITA</b>	<b>26.1</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>26.1</b>	n.a.	n.a.
Deminimis	1392/2014 Article 3 (d) ii	Malta Island and Sicily (GSA15-GSA16)	OTM-PTM	All	All	All	SPF	Anchovy	2015	<b>ITA</b>	<b>683.1</b>	n.a.	n.a.
									2015 Total	<b>Total</b>	<b>683.1</b>	n.a.	n.a.
								Sardine	2015	<b>ITA</b>	<b>365.4</b>	n.a.	n.a.
									2015 Total	<b>Total</b>	<b>365.4</b>	n.a.	n.a.
								Anchovy	2016	<b>ITA</b>	<b>949.9</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>949.9</b>	n.a.	n.a.
								Sardine	2016	<b>ITA</b>	<b>427.7</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>427.7</b>	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
		Malta Island and Sicily (GSA15-GSA16)	OTM-PTM	All	All	All	SPF	Anchovy	2017	ITA	1339.4	n.a.	n.a.
									2017 Total	Total	1339.4	n.a.	n.a.
								Sardine	2017	ITA	123.4	n.a.	n.a.
									2017 Total	Total	123.4	n.a.	n.a.
								Mackerel	2017	ITA	0.2	n.a.	n.a.
									2017 Total	Total	0.2	n.a.	n.a.
								Horse Mackerel	2017	ITA	0.1	n.a.	n.a.
									2017 Total	Total	0.1	n.a.	n.a.
								Anchovy	2016	FRA	1163.0	n.a.	n.a.
									2016 Total	Total	1163.0	n.a.	n.a.
Deminimis	1392/2014 Article 3(a)	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	OTM-PTM	All	All	All	SPF	Sardine	2016	FRA	78.2	n.a.	n.a.
									2016 Total	Total	78.2	n.a.	n.a.
								Mackerel	2016	FRA	3.5	n.a.	n.a.
									2016 Total	Total	3.5	n.a.	n.a.
								Horse Mackerel	2016	FRA	2.5	n.a.	n.a.
									2016 Total	Total	2.5	n.a.	n.a.
		Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	PS	All	All	All	SPF	Anchovy	2016	ESP	19168.0	0.0	6%
									2016	ITA	8720.9	n.a.	n.a.
									2016 Total	Total	27888.9	0.0	4%
								Sardine	2016	ESP	14312.9	0.0	29%
									2016	FRA	290.3	n.a.	n.a.
									2016	ITA	1927.0	n.a.	n.a.
									2016 Total	Total	16530.2	0.0	25%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
Deminimis	1392/2014 Article 3(a)	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	OTM-PTM	All	All	All	SPF	Mackerel	2016	ITA	55.0	n.a.	n.a.
									2016 Total	Total	55.0	n.a.	n.a.
								Horse Mackerel	2016	ESP	1877.0	0.0	87%
									2016	FRA	5.1	n.a.	n.a.
									2016	ITA	150.6	n.a.	n.a.
									2016 Total	Total	2032.6	0.0	80%
		Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	PS	All	All	All	SPF	Anchovy	2015	FRA	1048.7	n.a.	n.a.
									2015 Total	Total	1048.7	n.a.	n.a.
								Sardine	2015	FRA	67.5	n.a.	n.a.
									2015 Total	Total	67.5	n.a.	n.a.
								Mackerel	2015	FRA	1.1	n.a.	n.a.
									2015 Total	Total	1.1	n.a.	n.a.
								Horse Mackerel	2015	FRA	2.0	n.a.	n.a.
									2015 Total	Total	2.0	n.a.	n.a.
								Anchovy	2015	ESP	18189.4	0.6	6%
									2015	FRA	1.0	n.a.	n.a.
									2015	ITA	7773.5	n.a.	n.a.
									2015 Total	Total	25963.9	0.6	4%
								Sardine	2015	ESP	11778.9	7.5	45%
									2015	FRA	125.8	n.a.	n.a.
									2015	ITA	1526.2	n.a.	n.a.
									2015 Total	Total	13430.9	7.5	39%
								Mackerel	2015	FRA	0.7	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2015	ITA	14.1	n.a.	n.a.
									2015 Total	Total	14.8	n.a.	n.a.
								Horse Mackerel	2015	ESP	2838.9	208.6	81%
									2015	FRA	0.5	n.a.	n.a.
									2015	ITA	79.5	n.a.	n.a.
									2015 Total	Total	2918.9	208.6	79%
		Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	OTM-PTM	All	All	All	SPF	Anchovy	2017	FRA	1296.4	n.a.	n.a.
									2017 Total	Total	1296.4	n.a.	n.a.
								Sardine	2017	FRA	14.3	n.a.	n.a.
									2017 Total	Total	14.3	n.a.	n.a.
								Mackerel	2017	FRA	1.2	n.a.	n.a.
									2017 Total	Total	1.2	n.a.	n.a.
								Horse Mackerel	2017	FRA	1.1	n.a.	n.a.
									2017 Total	Total	1.1	n.a.	n.a.
		Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	PS	All	All	All	SPF	Anchovy	2017	ESP	21050.9	n.a.	n.a.
									2017	FRA	1.0	n.a.	n.a.
									2017	ITA	8016.8	n.a.	n.a.
									2017 Total	Total	29068.7	n.a.	n.a.
								Sardine	2017	ESP	10936.0	n.a.	n.a.
									2017	FRA	331.7	n.a.	n.a.
									2017	ITA	1517.8	n.a.	n.a.
									2017 Total	Total	12785.5	n.a.	n.a.
								Mackerel	2017	FRA	3.0	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Weight, tonnes	Unwanted catch without fillings Coverage % of total landings
									2017	ITA	121.5	n.a.	n.a.
									2017 Total	Total	124.5	n.a.	n.a.
								Horse Mackerel	2017	ESP	2111.4	n.a.	n.a.
									2017	FRA	1.8	n.a.	n.a.
									2017	ITA	112.6	n.a.	n.a.
									2017 Total	Total	2225.7	n.a.	n.a.
Deminimis	1392/2014 Article 3(b)	Northern Adriatic Sea (GSA17)	OTM-PTM	All	All	All	SPF	Sardine	2015	HRV	4.0	n.a.	n.a.
									2015	ITA	21803.5	n.a.	n.a.
									2015	SVN	0.0	0.0	100%
									2015 Total	Total	21807.5	0.0	0%
								Mackerel	2015	HRV	0.1	n.a.	n.a.
									2015	ITA	33.2	n.a.	n.a.
									2015 Total	Total	33.2	n.a.	n.a.
								Horse Mackerel	2015	HRV	1.7	n.a.	n.a.
									2015	ITA	99.0	n.a.	n.a.
									2015 Total	Total	100.7	n.a.	n.a.
		Northern Adriatic Sea (GSA17)	PS	All	All	All	SPF	Anchovy	2015	HRV	12777.1	11.9	83%
									2015	ITA	2763.4	n.a.	n.a.
									2015	SVN	14.6	0.1	100%
									2015 Total	Total	15555.1	12.0	69%
								Sardine	2015	HRV	51711.2	47.0	95%
									2015	ITA	807.2	n.a.	n.a.
									2015	SVN	42.2	0.5	100%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2015 Total	<b>Total</b>	<b>52560.6</b>	47.5	94%
								Mackerel	2015	<b>HRV</b>	<b>21.1</b>	0.1	11%
									2015	<b>ITA</b>	<b>9.5</b>	n.a.	n.a.
									2015	<b>SVN</b>	<b>0.4</b>	0.1	100%
									2015 Total	<b>Total</b>	<b>31.1</b>	0.2	9%
									2015	<b>HRV</b>	<b>326.3</b>	18.0	94%
								Horse Mackerel	2015	<b>ITA</b>	<b>21.7</b>	n.a.	n.a.
									2015	<b>SVN</b>	<b>0.4</b>	0.5	100%
									2015 Total	<b>Total</b>	<b>348.4</b>	18.4	88%
								Anchovy	2015	<b>HRV</b>	<b>0.1</b>	n.a.	n.a.
									2015	<b>ITA</b>	<b>18418.6</b>	n.a.	n.a.
									2015	<b>SVN</b>	<b>0.0</b>	0.0	100%
									2015 Total	<b>Total</b>	<b>18418.6</b>	0.0	0%
		Northern Adriatic Sea (GSA17)	OTM-PTM	All	All	All	SPF	Sardine	2016	<b>HRV</b>	<b>0.7</b>	n.a.	n.a.
									2016	<b>ITA</b>	<b>21906.2</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>21906.9</b>	n.a.	n.a.
								Mackerel	2016	<b>ITA</b>	<b>10.0</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>10.0</b>	n.a.	n.a.
								Horse Mackerel	2016	<b>HRV</b>	<b>0.0</b>	n.a.	n.a.
									2016	<b>ITA</b>	<b>60.7</b>	n.a.	n.a.
									2016 Total	<b>Total</b>	<b>60.7</b>	n.a.	n.a.
		Northern Adriatic Sea	PS	All	All	All	SPF	Anchovy	2016	<b>HRV</b>	<b>8229.1</b>	3.3	92%
									2016	<b>ITA</b>	<b>349.2</b>	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings Weight, tonnes	Coverage % of total landings
		(GSA17)							2016	SVN	5.5	0.0	100%
									2016 Total	Total	8583.8	3.3	88%
								Sardine	2016	HRV	54359.3	42.9	99%
									2016	ITA	407.2	n.a.	n.a.
									2016	SVN	27.0	0.3	100%
									2016 Total	Total	54793.4	43.3	98%
								Mackerel	2016	HRV	25.9	n.a.	n.a.
									2016	ITA	0.8	n.a.	n.a.
									2016	SVN	0.1	0.0	100%
									2016 Total	Total	26.8	0.0	0%
								Horse Mackerel	2016	HRV	913.4	8.3	97%
									2016	ITA	18.7	n.a.	n.a.
									2016	SVN	0.0	0.0	100%
									2016 Total	Total	932.1	8.3	95%
		Northern Adriatic Sea (GSA17)	OTM-PTM	All	All	All	SPF	Anchovy	2016	HRV	0.2	n.a.	n.a.
									2016	ITA	19736.0	n.a.	n.a.
									2016 Total	Total	19736.2	n.a.	n.a.
								Sardine	2017	ITA	17091.8	n.a.	n.a.
									2017 Total	Total	17091.8	n.a.	n.a.
								Mackerel	2017	ITA	123.4	n.a.	n.a.
									2017 Total	Total	123.4	n.a.	n.a.
								Horse Mackerel	2017	ITA	43.1	n.a.	n.a.
									2017 Total	Total	43.1	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
		Northern Adriatic Sea (GSA17)	PS	All	All	All	SPF	Anchovy	2017	HRV	10875.1	3.8	80%
									2017	ITA	2858.6	n.a.	n.a.
									2017	SVN	0.9	0.0	100%
									2017 Total	Total	13734.7	3.8	63%
								Sardine	2017	HRV	48321.3	86.0	91%
									2017	ITA	566.5	n.a.	n.a.
									2017	SVN	6.2	0.1	100%
									2017 Total	Total	48894.0	86.1	90%
								Mackerel	2017	HRV	22.5	n.a.	n.a.
									2017	ITA	0.4	n.a.	n.a.
									2017	SVN	0.1	0.0	100%
									2017 Total	Total	23.0	0.0	0%
								Horse Mackerel	2017	HRV	848.2	5.5	67%
									2017	ITA	24.1	n.a.	n.a.
									2017	SVN	0.0	0.0	100%
									2017 Total	Total	872.4	5.5	65%
Deminimis	86/2017, Article 4 (a) i	Northern Adriatic Sea (GSA17)	OTM-PTM	All	All	All	SPF	Anchovy	2017	ITA	13757.1	n.a.	n.a.
									2017 Total	Total	13757.1	n.a.	n.a.
		Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-	OTB-OTT-PTB	All	All	All	DEF	Hake	2017	ESP	1899.9	89.0	100%
									2017	FRA	534.7	n.a.	n.a.
									2017	ITA	514.6	n.a.	n.a.
									2017 Total	Total	2949.2	89.0	64%
								Red mullet	2017	ESP	1579.3	18.3	100%



Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
		GSA11.1-GSA11.2-GSA12)							2017	FRA	43.7	n.a.	n.a.
									2017	ITA	1570.7	n.a.	n.a.
									2017 Total	Total	3193.7	18.3	49%
Deminimis	86/2017, Article 4 (a) ii	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	GND-GNS-GNC-GTR-GTN	All	All	All	DEF	Hake	2017	ESP	69.8	n.a.	n.a.
									2017	FRA	14.6	n.a.	n.a.
									2017	ITA	466.8	n.a.	n.a.
									2017 Total	Total	551.2	n.a.	n.a.
		Adriatic Sea (GSA17-GSA18)	OTB-OTT-PTB-OTM	All	All	All	DEF	Red mullet	2017	ESP	174.3	n.a.	n.a.
									2017	ITA	85.0	n.a.	n.a.
									2017 Total	Total	259.3	n.a.	n.a.
									2017	HRV	783.0	2.9	78%
	86/2017, Article 4 (b) i							Hake	2017	ITA	3346.0	n.a.	n.a.
									2017	SVN	0.4	0.0	100%
									2017 Total	Total	4129.3	2.9	15%
									2017	HRV	985.5	3.6	90%
Deminimis	86/2017, Article 4 (b) ii	Adriatic Sea (GSA17-GSA18)	GND-GNS-GNC-GTR-GTN	All	All	All	DEF	Hake	2017	ITA	35.4	n.a.	n.a.
									2017	SVN	0.1	0.0	100%
									2017 Total	Total	86.0	2.3	58%
									2017	HRV	5.6	0.1	74%
								Red mullet	2017	HRV	5.6	0.1	74%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings Weight, tonnes	Coverage % of total landings
									2017	ITA	75.2	n.a.	n.a.
									2017	SVN	0.0	0.0	100%
									2017 Total	Total	80.8	0.1	5%
Deminimis	86/2017, Article 4 (b) iii	Adriatic Sea (GSA17-GSA18)	TBB	All	All	All	DEF	Hake	2017	ITA	5.7	n.a.	n.a.
									2017 Total	Total	5.7	n.a.	n.a.
								Red mullet	2017	ITA	4.3	n.a.	n.a.
									2017 Total	Total	4.3	n.a.	n.a.
Deminimis	86/2017, Article 4 (b) iv	Adriatic Sea (GSA17-GSA18)	OTB-OTT-PTB-OTM	All	All	All	DEF	Sole	2017	HRV	10.6	n.a.	n.a.
									2017	ITA	352.1	n.a.	n.a.
									2017	SVN	0.1	0.0	100%
									2017 Total	Total	362.8	0.0	0%
Deminimis	86/2017, Article 4 (b) v	Adriatic Sea (GSA17-GSA18)	GND-GNS-GNC-GTR-GTN	All	All	All	DEF	Sole	2017	HRV	167.2	0.6	89%
									2017	ITA	488.1	n.a.	n.a.
									2017	SVN	12.9	0.3	100%
									2017 Total	Total	668.2	0.9	24%
Deminimis	86/2017, Article 4 (c) i	South-eastern Mediterranean Sea (GSA15-GSA16-GSA19-GSA20-GSA22-GSA23-GSA25)	OTB-OTT-PTB-OTM	All	All	All	DEF	Hake	2017	CYP	2.0	0.0	100%
									2017	ITA	858.3	n.a.	n.a.
									2017	MLT	0.5	0.1	91%
									2017 Total	Total	860.9	0.1	0%
								Red mullet	2017	CYP	9.6	0.0	100%
									2017	ITA	1331.4	n.a.	n.a.
									2017	MLT	0.1	0.0	58%
									2017 Total	Total	1341.1	0.0	1%

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
Deminimis	86/2017, Article 4 (c) ii	South-eastern Mediterranean Sea (GSA15-GSA16-GSA19-GSA20-GSA22-GSA23-GSA25)	GND-GNS-GNC-GTR-GTN	All	All	All	DEF	Hake	2017	CYP	1.5	0.0	100%
									2017	ITA	332.5	n.a.	n.a.
									2017	MLT	0.6	n.a.	n.a.
									2017 Total	Total	334.7	0.0	0%
								Red mullet	2017	CYP	3.0	0.0	100%
									2017	ITA	103.3	n.a.	n.a.
									2017	MLT	1.2	n.a.	n.a.
									2017 Total	Total	107.6	0.0	3%

**Table 3.4.5.6. Landings and unwanted catch reported by MS to FDI data call for the fleets under exemptions in the Mediterranean Sea in 2018, 2017 data**

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
Deminimis	161/2018 Article 3 (2) Annex VI	Southern Adriatic Sea and Ionian Sea (GSA18-GSA19-GSA20)	PS	All	All	All	SPF	Anchovy	2017	ITA	3964.9	n.a.	n.a.
									2017 Total	Total	3964.9	0.0	n.a.
								Sardine	2017	ITA	1305.1	n.a.	n.a.
									2017 Total	Total	1305.1	n.a.	n.a.
								Mackerel	2017	ITA	26.1	n.a.	n.a.
									2017 Total	Total	26.1	n.a.	n.a.
	161/2018 Article 3(1) Annex I (1)	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	OTM-PTM	All	All	All	SPF	Horse Mackerel	2017	ITA	128.0	n.a.	n.a.
									2017 Total	Total	128.0	n.a.	n.a.
								Anchovy	2017	FRA	1296.4	n.a.	n.a.
									2017 Total	Total	1296.4	n.a.	n.a.
								Sardine	2017	FRA	14.3	n.a.	n.a.
									2017 Total	Total	14.3	n.a.	n.a.
								Mackerel	2017	FRA	1.2	n.a.	n.a.
									2017 Total	Total	1.2	n.a.	n.a.
								Horse Mackerel	2017	FRA	1.1	n.a.	n.a.
									2017 Total	Total	1.1	n.a.	n.a.
Deminimis	161/2018 Article 3(1) Annex I (2)	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-	PS	All	All	All	SPF	Anchovy	2017	ESP	21050.9	n.a.	n.a.
									2017	FRA	c	c	n.a.
									2017	ITA	8016.8	n.a.	n.a.
									2017 Total	Total	29068.7	n.a.	n.a.
								Sardine	2017	ESP	10936.0	n.a.	n.a.
									2017	FRA	331.7	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
		GSA12)							2017	ITA	1517.8	n.a.	n.a.
									2017 Total	Total	12785.5	n.a.	n.a.
								Mackerel	2017	FRA	c	c	n.a.
									2017	ITA	121.5	n.a.	n.a.
								Horse Mackerel	2017 Total	Total	124.5	n.a.	n.a.
									2017	ESP	2111.4	n.a.	n.a.
									2017	FRA	c	c	n.a.
									2017	ITA	112.6	n.a.	n.a.
									2017 Total	Total	2225.7	n.a.	n.a.
Deminimis	161/2018 Article 3(1) Annex II (2)	South Eastern Mediterranean Sea GSA 25	PS	All	All	All	SPF	Horse Mackerel	2017	CYP	0.1	0.0	100%
									2017 Total	Total	0.1	0.0	100%
Deminimis	161/2018 Article 3(1) Annex III (1)	Adriatic Sea (GSA17-GSA18)	OTM-PTM	All	All	All	SPF	Sardine	2017	ITA	18040.2	n.a.	n.a.
									2017 Total	Total	18040.2	n.a.	n.a.
								Mackerel	2017	ITA	176.5	n.a.	n.a.
									2017 Total	Total	176.5	n.a.	n.a.
								Horse Mackerel	2017	ITA	98.4	n.a.	n.a.
									2017 Total	Total	98.4	n.a.	n.a.
								Anchovy	2017	ITA	18118.4	n.a.	n.a.
									2017 Total	Total	18118.4	n.a.	n.a.
Deminimis	161/2018 Article 3(1) Annex III (2)	Adriatic Sea (GSA17)	PS	All	All	All	SPF	Anchovy	2017	HRV	10875.1	3.8	80%
									2017	ITA	2858.6	n.a.	n.a.
									2017	SVN	c	c	c

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2017 Total	<b>Total</b>	<b>13734.7</b>	3.8	63%
									2017	<b>HRV</b>	<b>48321.3</b>	86.0	91%
								Sardine	2017	<b>ITA</b>	<b>566.5</b>	n.a.	n.a.
									2017	<b>SVN</b>	<b>c</b>	c	c
									2017 Total	<b>Total</b>	<b>48894.0</b>	86.1	90%
								Mackerel	2017	<b>HRV</b>	<b>22.5</b>	n.a.	n.a.
									2017	<b>ITA</b>	<b>c</b>	c	c
									2017	<b>SVN</b>	<b>c</b>	c	c
									2017 Total	<b>Total</b>	<b>23.0</b>	0.0	0%
								Horse Mackerel	2017	<b>HRV</b>	<b>848.2</b>	5.5	67%
									2017	<b>ITA</b>	<b>24.1</b>	n.a.	n.a.
									2017	<b>SVN</b>	<b>c</b>	c	c
									2017 Total	<b>Total</b>	<b>872.4</b>	5.5	65%
Deminimis	161/2018 Article 3(2) Annex IV	Malta Island and South of Sicily (GSA15-GSA16)	PS	All	All	All	SPF	Anchovy	2017	<b>ITA</b>	<b>1398.5</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>1398.5</b>	n.a.	n.a.
								Sardine	2017	<b>ITA</b>	<b>220.8</b>	n.a.	n.a.
									2017	<b>MLT</b>	<b>0.1</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>220.8</b>	n.a.	n.a.
								Mackerel	2017	<b>ITA</b>	<b>120.7</b>	n.a.	n.a.
									2017	<b>MLT</b>	<b>c</b>	c	n.a.
									2017 Total	<b>Total</b>	<b>277.3</b>	n.a.	n.a.
								Horse Mackerel	2017	<b>ITA</b>	<b>23.2</b>	n.a.	n.a.
									2017	<b>MLT</b>	<b>4.2</b>	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2017 Total	<b>Total</b>	<b>27.3</b>	n.a.	n.a.
Deminimis	86/2017, Article 4 (a) i, 153/2018 (1) 3	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	OTB-OTT-PTB	All	All	All	DEF	Hake	2017	<b>ESP</b>	<b>1899.9</b>	89.0	100%
									2017	<b>FRA</b>	<b>534.7</b>	n.a.	n.a.
									2017	<b>ITA</b>	<b>514.6</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>2949.2</b>	89.0	64%
Deminimis	86/2017, Article 4 (a) i, 153/2018 (1) 4	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	OTB-OTT-PTB	All	All	All	DEF	Red mullet	2017	<b>ESP</b>	<b>1579.3</b>	18.3	100%
									2017	<b>FRA</b>	<b>43.7</b>	n.a.	n.a.
									2017	<b>ITA</b>	<b>1570.7</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>3193.7</b>	18.3	49%
Deminimis	86/2017, Article 4 (a) ii, , 153/2018 (1) 3	Western Mediterranean Sea (GSA1-GSA2-GSA5-GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	GND-GNS-GNC-GTR-GTN	All	All	All	DEF	Hake	2017	<b>ESP</b>	<b>69.8</b>	n.a.	n.a.
									2017	<b>FRA</b>	<b>14.6</b>	n.a.	n.a.
									2017	<b>ITA</b>	<b>466.8</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>551.2</b>	n.a.	n.a.
Deminimis	86/2017, Article 4 (a) ii, , 153/2018	Western Mediterranean Sea (GSA1-GSA2-GSA5-	GND-GNS-GNC-GTR-	All	All	All	DEF	Red mullet	2017	<b>ESP</b>	<b>174.3</b>	n.a.	n.a.
									2017	<b>ITA</b>	<b>85.0</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>259.3</b>	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
	(1) 4	GSA6-GSA7-GSA8-GSA9-GSA10-GSA11.1-GSA11.2-GSA12)	GTN										
Deminimis	86/2017, Article 4 (b) i	Adriatic Sea (GSA17-GSA18)	OTB-OTT-PTB-OTM	All	All	All	DEF	Hake	2017	HRV	783.0	2.9	78%
									2017	ITA	3346.0	n.a.	n.a.
									2017	SVN	0.4	0.0	100%
									2017 Total	Total	4129.3	2.9	15%
								Red mullet	2017	HRV	985.5	3.6	90%
									2017	ITA	3200.8	n.a.	n.a.
									2017	SVN	3.3	0.1	100%
									2017 Total	Total	4189.6	3.7	21%
Deminimis	86/2017, Article 4 (b) ii	Adriatic Sea (GSA17-GSA18)	GND-GNS-GNC-GTR-GTN	All	All	All	DEF	Hake	2017	HRV	50.5	2.3	99%
									2017	ITA	35.4	n.a.	n.a.
									2017	SVN	0.1	0.0	100%
									2017 Total	Total	86.0	2.3	58%
								Red mullet	2017	HRV	5.6	0.1	74%
									2017	ITA	75.2	n.a.	n.a.
									2017	SVN	c	c	c
									2017 Total	Total	80.8	0.1	5%
Deminimis	86/2017, Article 4 (b) iii	Adriatic Sea (GSA17-GSA18)	TBB	All	All	All	DEF	Hake	2017	ITA	5.7	n.a.	n.a.
									2017 Total	Total	5.7	n.a.	n.a.
								Red	2017	ITA	4.3	n.a.	n.a.



Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
								mullet	2017 Total	<b>Total</b>	<b>4.3</b>	n.a.	n.a.
Deminimis	86/2017, Article 4 (b) iv	Adriatic Sea (GSA17-GSA18)	OTB-OTT-PTB-OTM	All	All	All	DEF	Sole	2017	<b>HRV</b>	<b>10.6</b>	n.a.	n.a.
									2017	<b>ITA</b>	<b>352.1</b>	n.a.	n.a.
									2017	<b>SVN</b>	<b>0.1</b>	0.0	100%
									2017 Total	<b>Total</b>	<b>362.8</b>	0.0	0%
Deminimis	86/2017, Article 4 (b) v	Adriatic Sea (GSA17-GSA18)	GND-GNS-GNC-GTR-GTN	All	All	All	DEF	Sole	2017	<b>HRV</b>	<b>167.2</b>	0.6	89%
									2017	<b>ITA</b>	<b>488.1</b>	n.a.	n.a.
									2017	<b>SVN</b>	<b>12.9</b>	0.3	100%
									2017 Total	<b>Total</b>	<b>668.2</b>	0.9	24%
Deminimis	86/2017, Article 4 (c) i	South-eastern Mediterranean Sea (GSA15-GSA16-GSA19-GSA20-GSA22-GSA23-GSA25)	OTB-OTT-PTB-OTM	All	All	All	DEF	Hake	2017	<b>CYP</b>	<b>2.0</b>	0.0	100%
									2017	<b>ITA</b>	<b>858.3</b>	n.a.	n.a.
									2017	<b>MLT</b>	<b>0.5</b>	0.1	91%
									2017 Total	<b>Total</b>	<b>860.9</b>	0.1	0%
								Red mullet	2017	<b>CYP</b>	<b>9.6</b>	0.0	100%
									2017	<b>ITA</b>	<b>1331.4</b>	n.a.	n.a.
									2017	<b>MLT</b>	<b>0.1</b>	0.0	58%
									2017 Total	<b>Total</b>	<b>1341.1</b>	0.0	1%
Deminimis	86/2017, Article 4 (c) ii	South-eastern Mediterranean Sea (GSA15-GSA16-GSA19-GSA20-GSA22-GSA23-GSA25)	GND-GNS-GNC-GTR-GTN	All	All	All	DEF	Hake	2017	<b>CYP</b>	<b>1.5</b>	0.0	100%
									2017	<b>ITA</b>	<b>332.5</b>	n.a.	n.a.
									2017	<b>MLT</b>	<b>0.6</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>334.7</b>	0.0	0%
								Red mullet	2017	<b>CYP</b>	<b>3.0</b>	0.0	100%
									2017	<b>ITA</b>	<b>103.3</b>	n.a.	n.a.

Type of exemption	Exemption Article	Area	FDI gear code	Mesh size	Vessel length	Special Conditions	Target Assemblage	Species	Year	Country	Total weight of landings, tonnes	Unwanted catch without fillings	
												Weight, tonnes	Coverage % of total landings
									2017	<b>MLT</b>	<b>1.2</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>107.6</b>	0.0	3%
Deminimis	Article 161/2018 (1) Annex II (1)	South Eastern Mediterranean Sea GSA15 GSA16 GSA19 GSA20 GSA22 GSA23, GSA25	OTM-PTM	All	All	All	SPF	Anchovy	2017	<b>ITA</b>	<b>1339.4</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>1339.4</b>	n.a.	n.a.
								Sardine	2017	<b>ITA</b>	<b>123.4</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>123.4</b>	n.a.	n.a.
								Mackerel	2017	<b>ITA</b>	<b>c</b>	c	n.a.
									2017 Total	<b>Total</b>	<b>c</b>	c	n.a.
								Horse Mackerel	2017	<b>ITA</b>	<b>0.1</b>	n.a.	n.a.
									2017 Total	<b>Total</b>	<b>0.1</b>	n.a.	n.a.
Survivability	Article 86/2017 (4) c	South-eastern Mediterranean Sea (GSA15-GSA16-GSA22-GSA23)	OTB-OTT-PTB-OTM	All	All	All	DEF	Hake	2017	<b>CYP</b>	<b>c</b>	c	c
									2017	<b>ITA</b>	<b>664.3</b>	n.a.	n.a.
									2017	<b>MLT</b>	<b>0.5</b>	0.1	91%
									2017 Total	<b>Total</b>	<b>665.2</b>	0.1	0%

#### 4 CONTACT DETAILS OF EWG-18-11 PARTICIPANTS

<sup>1</sup> - Information on EWG participant's affiliations is displayed for information only. In any case, Members of the STECF, invited experts, and JRC experts shall act independently. In the context of the STECF work, the committee members and other experts do not represent the institutions/bodies they are affiliated to in their daily jobs. STECF members and experts also declare at each meeting of the STECF and of its Expert Working Groups any specific interest, which might be considered prejudicial to their independence in relation to specific items on the agenda. These declarations are displayed on the public meeting's website if experts explicitly authorized the JRC to do so in accordance with EU legislation on the protection of personnel data. For more information: <http://stecf.jrc.ec.europa.eu/adm-declarations>

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## **5 LIST OF BACKGROUND DOCUMENTS**

List of background documents:

EWG-18-11 – Doc 1 - Declarations of invited and JRC experts (see also section 4 of this report – List of participants)

Scientific, Technical and Economic Committee for Fisheries (STECF) – Fisheries Dependent Information (STECF-16-20); Publications Office of the European Union, Luxembourg; EUR 27758 EN; doi:10.2788/502445

Scientific, Technical and Economic Committee for Fisheries (STECF) – Fisheries Dependent Information (STECF-17-12); Publications Office of the European Union, Luxembourg; EUR 29204 EN; doi:10.2760/094412

ICES, 2012. Report of the Study Group on the Practical Implementation of Discard sampling plans (SGPIDS 2). ICES 2012/ACOM:50

ICES, 2013. Report of the Study Group on the Practical Implementation of Discard sampling plans (SGPIDS 3). ICES 2013/ACOM:56

COMMISSION DELEGATED REGULATION (EU) No 1396/2014 of 20 October 2014 establishing a discard plan in the Baltic Sea, 2p.

COMMISSION DELEGATED REGULATION (EU) No 1392/2014 of 20 October 2014 establishing a discard plan for certain small pelagic fisheries in the Mediterranean Sea, 4p.

COMMISSION DELEGATED REGULATION (EU) No 1395/2014 of 20 October 2014 establishing a discard plan for certain small pelagic fisheries and fisheries for industrial purposes in the North Sea, 5p.

COMMISSION DELEGATED REGULATION (EU) No 1393/2014 of 20 October 2014 establishing a discard plan for certain pelagic fisheries in north-western waters, 6p.

COMMISSION DELEGATED REGULATION (EU) No 1394/2014 of 20 October 2014 establishing a discard plan for certain pelagic fisheries in south-western waters, 4p.

COMMISSION DELEGATED REGULATION (EU) 2015/2440 of 22 October 2015 establishing a discard plan for certain demersal fisheries in the North Sea and in Union waters of ICES Division IIa, 7p.

COMMISSION DELEGATED REGULATION (EU) 2015/2438 of 12 October 2015 establishing a discard plan for certain demersal fisheries in north-western waters, 7p.

COMMISSION DELEGATED REGULATION (EU) 2015/2439 of 12 October 2015 establishing a discard plan for certain demersal fisheries in south-western waters, 6p.

COMMISSION DELEGATED REGULATION (EU) 2016/2376 of 13 October 2016 establishing a discard plan for mollusc bivalve *Venus* spp. in the Italian territorial waters, 2p.

COMMISSION DELEGATED REGULATION (EU) 2017/87 of 20 October 2016 establishing a discard plan for turbot fisheries in the Black Sea, 3p.

COMMISSION DELEGATED REGULATION (EU) 2017/2167 of 5 July 2017 amending Delegated Regulation (EU) 2016/2374 establishing a discard plan for certain demersal fisheries in South-Western waters, 4p.

COMMISSION DELEGATED REGULATION (EU) 2016/2377 of 14 October 2016 amending Delegated Regulation (EU) No 1394/2014 establishing a discard plan for certain pelagic fisheries in South-Western waters, 2p.

COMMISSION DELEGATED REGULATION (EU) 2017/86 of 20 October 2016 establishing a discard plan for certain demersal fisheries in the Mediterranean Sea, 5p.

COMMISSION DELEGATED REGULATION (EU) 2016/2374 of 12 October 2016 establishing a discard plan for certain demersal fisheries in South-Western waters, 6p.

COMMISSION DELEGATED REGULATION (EU) 2016/2250 of 4 October 2016 establishing a discard plan for certain demersal fisheries in the North Sea and in Union waters of ICES Division IIa, 7p.

COMMISSION DELEGATED REGULATION (EU) 2016/2375 of 12 October 2016 establishing a discard plan for certain demersal fisheries in North-Western waters, 9p.

COMMISSION DELEGATED REGULATION (EU) 2018/211 of 21 November 2017 establishing a discard plan as regards salmon in the Baltic Sea, 3p.

COMMISSION DELEGATED REGULATION (EU) 2018/153 of 23 October 2017 amending Delegated regulation (EU) 2017/86 establishing a discard plan for certain demersal fisheries in the Mediterranean Sea, 5p.

COMMISSION DELEGATED REGULATION (EU) 2018/45 of 20 October 2017 establishing a discard plan for certain demersal fisheries in the North Sea and in Union waters of ICES Division IIa for the year 2018, 7p.

COMMISSION DELEGATED REGULATION (EU) 2018/189 of 23 November 2017 amending Delegated regulation (EU) No 1395/2014 establishing a discard plan for certain small pelagic fisheries and fisheries for industrial purposes in the North Sea, 4p.

COMMISSION DELEGATED REGULATION (EU) 2018/46 of 20 October 2017 establishing a discard plan for certain demersal and deep sea fisheries in North-Western waters for the year 2018, 8p.

COMMISSION DELEGATED REGULATION (EU) 2018/190 of 24 November 2017 amending Delegated Regulation (EU) No 1393/2014 establishing a discard plan for certain pelagic fisheries in North-Western waters, 5p.

COMMISSION DELEGATED REGULATION (EU) 2018/44 of 20 October 2017 amending Delegated Regulation (EU) 2016/2374 establishing a discard plan for certain demersal fisheries in South-Western waters, 5p.

COMMISSION DELEGATED REGULATION (EU) 2018/188 of 21 November 2017 amending Delegated Regulation (EU) No 1394/2014 establishing a discard plan for certain pelagic fisheries in South-Western waters, 3p.

REGULATION (EU) 2016/1139 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 July 2016 establishing a multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks, amending Council Regulation (EC) No 2187/2005 and repealing Council Regulation (EC) No 1098/2007, 15p.

REGULATION (EU) 2018/973 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2018 establishing a multiannual plan for demersal stocks in the North Sea and the fisheries exploiting those stocks, specifying details of the implementation of the landing obligation in the North Sea and repealing Council Regulations (EC) No 676/2007 and (EC) No 1342/2008, 13p.

COM(2017) 97 final, 2017/0043 (COD), Brussels, 24.2.2017, Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a multi-annual plan for small pelagic stocks in the Adriatic Sea and the fisheries exploiting those stocks  
{SWD(2017) 63 final} {SWD(2017) 64 final}, 25p+3p.

COM(2018) 115 final, 2018/0050 (COD), Brussels, 8.3.2018 Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a multi-annual plan for the fisheries exploiting demersal stocks in the western Mediterranean Sea {SWD(2018) 59 final} - {SWD(2018) 60 final}, 27p + 3p.

COM(2018) 149 final/2, 2018/0074 (COD), Brussels, 18.4.2018, Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a multiannual plan for fish stocks in the Western Waters and adjacent waters, and for fisheries exploiting those stocks, amending Regulation (EU)

2016/1139 establishing a multiannual plan for the Baltic Sea, and repealing Regulations (EC) No 811/2004, (EC) No 2166/2005, (EC) No 388/2006, (EC) 509/2007 and (EC) 1300/2008 {SWD(2018) 112 final} - {SWD(2018) 113 final}, 30p.

Joint Recommendation of the Scheveningen Group, Discard Plan for Demersal Fisheries in the North Sea, 30.08.2018, 32p.



## **6 ANNEXES**

**ANNEX 1 Member States sections on Methodology, Data availability, Coverage, Problems encountered and other comments.**

## 6 ANNEXES

### Annex 1

#### **Methodology, data availability, coverage and problems encountered by Member States.**

##### 1 Belgium

###### 1.1 Methodology

TOTWGHTLANDG are based on combined information of logbook data and sale slips. The actual landed weight is split according to the logbook information on hours fished in the respective rectangles. The annual estimates of discard rate have been assumed to apply in each of the 4 quarters to calculate the UNWANTED\_CATCH by quarter.

FISHING TECH of a vessel for a certain year was determined based on the highest fishing days recorded for a certain gear.

TOTSEADAYS, TOTFISHDAYS (table G) and EFFECTIVE\_EFFORT (table I) were calculated using the 'fecR' package. TOTKW DAYSATSEA and TOTKWFISHDAYS are calculated as respectively days at sea and fishing days multiplied by the power of the vessel in kilowatts at the trip landing date and area. Same approach for calculating TOTGTDAYSATSEA and TOTGTFISHDAYS with the gross tonnage of the vessel. The engine power and gross tonnage are related to the fleet throughout the year and not to the fleet on the 1st January.

For the calculation of HRSEA, the total hours at sea of a trip was split proportionally to the days at sea, over the areas where fishing activity was recorded for that trip.

To determine TOTKW, TOTGT, AVGAGE and AVGLOA in table J, the fleet was not considered on the 1st January. The most recent vessel configuration throughout the year was selected.

Data were marked as confidential if the data could be reassigned to one vessel.

###### 1.2 Data availability

The data was finalised and available by the data call deadline.

###### 1.3 Coverage

Belgium provided fleet specific landings data for the period 2015-2017 derived from official logbook databases for all vessels  $\geq 10$  meters. The data covers all areas in which the Belgian fleet is active and conform to the requested aggregation. There is no information on misreporting. Gear types such as trammels and seine nets are missing mesh size information. For 2015, all unwanted catch and landings information is without disaggregation by age or length. The beam trawl fleet targeting demersal fish with an engine power smaller or equal to 221 kW were not randomly sampled and therefore no refusal rate was calculated. Belgium provided effort data for the period 2015-2017 for all relevant areas where the Belgian fleet is operational.

#### **Comparison with EUROSTAT data:**

\*There's a different FAO code used for reporting anglerfish landings in the FDI data set versus the EUROSTAT data set. In the EUROSTAT data all landings of anglerfish are reported as 'ANF' whereas in

the FDI data, the FAO code is different according to the stock. The landings in ICES area 27.4.a, 27.4.b, 27.4.c (stock anf.27.3a46) and 27.7.a (no stock defined for this area) are reported as 'ANF'. The landings in ICES area 27.7.d, 27.7.e, 27.7.f, 27.7.g, 27.7.h, 27.8.a and 27.8.b are reported as 'ANK' (stock ank.27.78ab) or 'MON' (stock mon.27.78ab). The sum of the landings of ANF, ANK and MON in the FDI data set (1134 t in 2015 and 1455 t in 2016) matches with the total landings of ANF in the EUROSTAT data set (1104 t in 2015 and 1433 t in 2016).

\*There's a smaller amount of Raja spp. ('SKA') reported in 2016 under the FDI data call (12,34 t) compared to the EUROSTAT landings of 'SKA' (66,7 t). For the landings of rays by species, no substantial difference could be recorded.

\* The number of vessels in table J of the FDI data set is less than the number of vessels reported in the EUROSTAT data set. For capacity, although the regulation states that the population is the fleet on the 1st January, the most recent vessel configuration throughout the year was selected. This might explain the minor difference in the number of vessels.

#### **Comparison with AER data:**

For the AER data call, the fleet was not considered on the 1st January. The most recent vessel configuration throughout the year was selected to determine kWDays, GTDays, kWFishDays and GTFishDays. For the FDI data call, the engine power and gross tonnage are related to the fleet throughout the year.

For the AER data call, the days at sea and fishing days calculation algorithm is analogous to the one applied by the fecR package. However, the calculated days at sea for a trip are split proportionally to the hours at sea over the ICES areas on which hours at sea were registered. Whereas in the fecR algorithm, the calculated days at sea for a trip is split equally over dates on which fishing occurs and the effort for each fishing date is split equally over the fishing activity on that date. For active gears in the AER data call, each fishing date has 1 fishing day that is split proportionally to the fishing hours over the ICES areas on which fishing occurs. Whereas in the fecR algorithm, each fishing date has 1 fishing day that is split equally over the ICES areas on which fishing occurs. The passive gears are treated equally. So, the total days at sea and fishing days in the FDI data set matches with the totals in the AER data set but the distribution by area is different.

#### **1.4 Problems encountered**

No other comments.

#### **1.5 Other comments if relevant**

No other comments.

## **2 Bulgaria**

### **2.1 Methodology**

Based on the Control Regulation and the Bulgarian legislation all fishermen in Bulgaria are obliged to use fishing logbook. All transversal data is stored in the database administrated by the Executive agency for fisheries and aquaculture. On the base of the data from logbook are calculated the number of fishing trips, days at sea, fishing days and hours at sea.

Regarding Bulgarian legislation there is no difference between small scale fleet and the large scale fleet, so all commercial fleet is treated equally. Because of this all owners of vessels

are obliged to use fishing logbook during the period covered by the New FDI data call 2015-2017. Vessels which are applying for quota for turbot should have VMS on the board, no matter what is their length.

Estimation procedures were not used because the data was available for every vessel by landings/fishing operation.

The methodology used for calculation of effort was the same for all DCF data calls, but neither the R script have been used nor its logics been implemented in SQL or other software.

The scientific data related to landings is collected by the Bulgarian scientific institutes involved in DCF.

There are no derogations, which are applicable for Bulgaria.

## **2.2 Data availability**

All the data was finalised and available by the data call deadline. The data for capacity, landings and effort is available at the end of January for the previous year and the scientific data is available in May-June.

## **2.3 Coverage**

During this year's data call Bulgaria provided the data by quarters for first time for the period 2015-2017. There are no major discrepancies between landings and effort tables. The only mismatch was between the landings and effort with GNS in 2015 and 2016 in regards to the mesh size range. The reason is because the catch of turbot is permitted only with bottom set gillnets with minimum mesh size 400 mm. Since this is the first time in which the effort should be provided by mesh size of fishing gear, the calculation of effort was done manually and due to the big amount of data, it was prepared only for 2017. For 2015 and 2016 the reported effort with GNS with mesh size 00D14 includes the effort with GNS with mesh size 400DXX.

### **General comments**

The provided data covers the whole Bulgarian fleet. The data by rectangle is based on VMS data for large scale fleet, vessels with active gears <12m and vessels which owned turbot quota, because they are also monitored by the VMS center. For the vessels under 12 m with passive gears the catch was allocated by rectangles based on the landing port.

The only difference in the provided data between FDI data call and other data calls is the data reported to the fleet-economic data call in which the required data for kW\*Fishing days, GT\*fishing days, kW\*hours at sea and GT\*hours at sea is only for dredges and trawls only (in Bulgaria the dredges are forbidden, so we provided these variables only for the trawls). For FDI these variables are calculated for all fishing gears.

The provided data for the unwanted catch is only from the logbook data.

### **Comparison with Eurostat data.**

The difference between FDI data and Eurostat data in regards to the number of vessels is because the number of vessels provided to Eurostat includes the inactive vessels, while the data in the FDI is only for the active vessels. There is also small difference in the total landed tonnes, which is due to the different number of reported species. In order to avoid this discrepancy in the next year's data call will be included all species which were provided to Eurostat.

### **Publication of confidential data**

The data provided in this data call is not considered as confidential. The value of the sales is calculated as the landings are multiplied by the average price per species from the sales notes for the whole fleet.

## 2.4 Problems encountered

### Problems related to data collection

The main problem faced during the preparation of the data call was related to the spatial landings and spatial effort. The reason for this is because the catch/landing/effort data and the VMS data are stored in two different data bases. The data for 2017 was prepared manually by combining the information and steps were in order to improve/connect the data bases.

### Problems related to data submission

There were no problems related to data submission.

## 2.5 Other comments if relevant

The provided data for the unwanted catch is from the official data sources.

The de-minimis is not applicable for Bulgaria. The only survivability exemption is defined in the Commission Delegated Regulation EU) 2017/87 of 20 October 2016 establishing a discard plan for turbot fisheries in the Black Sea.

# 3 Croatia

## 3.1 Methodology

Data collected and derogations (if applicable)

- (1) No derogations are used for data on fishing activities (catch, landings, discard, effort) and capacity.
- (2) Data collection on biological - metier-related variables and biological - stock-related variables is according to Table 1 - Data Collection specification, at the end of this document.

*Estimation procedures* (in case something been used, e.g. estimation of landings and effort for the small scale fleet)

No estimation procedures are being used for reporting on landing, discard and effort data. Data on landing, discard and effort data is collected on a census basis from the entire fleet (active and inactive vessels). For vessels below 10m LoA using passive gears a monthly fishing report is applicable in which case fisherman report data for each fishing trip. Data for landing value is estimated using average prices from sales notes. Biological estimates are made on the basis of official landings and discard data.

For certain species fisherman report landing data on genus level (*Eledone spp* and *Trachurus spp*), therefore landing data in table A is reported as such. However, biological data on species level for those species is estimated on the basis of MEDITS sampling data and detailed analysis of landing during monitoring of metiers, including the following species: *Eledone cirrhosa*, *Trachurus trachurus*, *Eledone moschata*, *Trachurus mediterraneus*.

*Unwanted catch calculation*

Official discard data is used.

Calculation of effort (following joint methodology or not). Tell us if R script have been used or its logics been implemented in SQL or other software.

All effort calculation procedures are implemented in SQL following the logic agreed within the WS on Transversal variables.

Specific indicators (e.g. refusal rate)

Currently refusal rate is not recorded.

### 3.2 Data availability

Please comment if all the data was finalised and available by the data call deadline. When it can be available and provided in case there is a delay.

All the data was finalised and available by the data call deadline.

### 3.3 Coverage

Please have a look at quality checks in Tableau and provide your comments regarding the data collected and provided during the data call.

General comments

Provide general comments related to data coverage, explain why data is missing (in case something is missing)

#### Landings vs Effort

The errors reported in Tableau (null fish days/sea days) are due to the fact that effort data is aggregated to secondary (clustered) fleet segments, while data contained in Table A is aggregated to primary (unculstered) fleet segments. In fact there is no missing data, as the effort is attributed to the relevant main fleet segments.

The fleet segmentation procedure is done each year for the previous year where fleet segments are calculated on the basis of fishing activity data and capacity data. Data on primary and secondary fleet segments is attributed to each vessel and stored in the national data base. These fleet segments present sampling and reporting units for the Fleet economic data call. The FDI data-call does not specify if the same units should be used or if a separate aggregation should be done where data is statistically aggregated on the basis of fishing technique and vessel length categories. It should be clearly specified if effort should be assigned to vessels and attributed fleet segments or if a separate statistical aggregation should be made.

#### Wghtlandg vs Vallandg (Data with Totwghtlandg > 0 and Totvallandg = 0 (in table A)

The errors reported in Tableau are not errors but reflect the real situation in the Bluefin tuna fisheries. Namely, the total landed weight corresponds to total PS catch which is transferred to cages for farming purposes. As there is no PS-BFT landing per se, the landing value is not provided. All income related to PS-BFT catch is afterwards realized by the BFT farms (BFT catching vessels are owned by the farms).

#### Domains Landings (table A & E; A & F and Domains Discards (table A & C; A & D)

Comparison among domains between table A and tables C, D, E and F showed incompatibilities in codification of domains between tables. The main reason was the format of table A that is disaggregate at quarter level while other tables have annual disaggregation. Domain codification was done following criteria stated in Appendix 7 of official letter. The errors reported in Tableau were fixed upon resubmission of table A with updated Domain codification that match ones in tables C-F.

Some errors remain regarding reporting the data at genus level for some species as it was already stated in above.

#### Domain Landings total; Domain Discards total

The differences in total weight of landings value reported in table A among table E and F are insignificant. The average value of statistical error between landings among tables for certain type of fisheries and species is 0.9 %.

The differences in total weight of discards value reported in table A among table C and D are insignificant. The average value of statistical error between discards among tables for certain type of fisheries and species is 3.9 %.

#### Domain Discards (table C & D)

Comparison among domain discards from table C and from table D showed rows with absent domain discards in one of the tables. Improved methods will be implemented in SQL or data quality check based on R scripts to avoid further errors.

Comments in case there is any difference with other STECF data calls, e.g. effort calculation for economic data call, or something missing/more data provided compared to economic or meds data calls)

Although the same logic is used to calculate effort, depending on the data aggregation levels the results may differ (economic fleet segment, FDI domain, metier level 6; temporal and geographic stratification).

Comparison with Eurostat data.

Provide any relevant comments regarding comparability of the data set provided (landings and capacity) with Eurostat data. Explain reasons for difference in case there is any difference.

Data for EUROSTAT for 2014-2016 was updated by the end of August to include the final landing statistics and in order to harmonize the data sets. Additionally, the difference in the number of vessels (ESTAT vs FDI data) is due to the fact that FDI does not include inactive vessels. In case the Tableau is updated with the latest ESTAT data, there should be no significant differences.

Publication of confidential data. No apparent confidentiality issues.

### **3.4 Problems encountered**

#### *Problems related to data collection*

No apparent problems encountered.

#### *Problems related to data submission*

Major problem associated with the data submission deadline (3<sup>rd</sup> July 2018). FDI data call deadline coincided with the Mediterranean & Black Sea data call deadline. Even though the data is mostly the same, the reporting formats are different and require separate data handling procedures and data management.

Additionally, several GFCM DCRF tasks should be transmitted to GFCM by 30<sup>th</sup> June, including the following:

DCRF Task II.1 - Landing data

DCRF Task II.2 - Catch data per species

DCRF Task V.1 Effort data per fleet segment

DCRF Task V.2 Effort data per fishing gear

DCRF Task V.3 Effort data CPUE

DCRF Task VII.5 - Red coral

As this is the period when MEDITS survey is scheduled, it is very difficult to dedicate time and personnel for additional reporting.

### 3.5 Other comments if relevant

Significant numbers of duplicate rows were recognized by the Data Validation tool (DVT), mostly for DRB and FPO gear types. At national level these gears are disaggregate according to mesh size. At the same time, DVT does not allow input of mesh size range for these tools and it should be replaced by “NA” as it is stated in Appendix 7. The results of this procedure is recognition of the rows as duplicates. This false recognition of duplicates could seriously affect further analysis of data. In order to resolve this situation further consultation should be done.

## 4 Denmark

### 4.1 Methodology

Denmark has a database for transversal data, where logbook data and sales notes data are merged by trip, and information from the fleet register is added. Landings and value of landings are based on sales notes, while information on gear and ICES rectangle are from the logbooks. For industrial fisheries targeting sprat, sandeel and norway pout, the main species is reported in the logbooks but there might also be a small amount of other species in the landings. Samples are taken to find the species composition of the landing by area, ICES rectangle, month and target species. This is done by the Danish Fisheries Agency, and the species composition is applied to official landings, and also to the FDI datacall.

Fishing technique (FISHING\_Tech) is added from a file from Statistics Denmark that has defined the fishing techniques for each vessel for the STECF fleet economic datacall.

In 2018, after a Métier workshop in January, Denmark has changed the métier allocation procedure, and following a recommendation from the workshop, estimating métiers for vessels without logbooks, which were left as unknown (MIS\_MIS) before. The gear from the estimated métier is added to the trips from vessels without logbooks, and the mesh size is estimated from the average mesh size for that métier.

One vessel has been marked as confidential, as this is the only Danish vessel fishing in some SUB\_REGIONs.

The SPECON codes “GRID35” and “SELTRA” are based on logbook registrations on selection panels in areas 27.3.a.20 and 27.3.a.21. In the Baltic, it is not registered in the logbooks if BACOMA or T90 and therefore these codes are not reported in the FDI datacall.

The biological data on unwanted catches, length and age distributions have been processed to output to both ICES datacalls and the FDI datacall and is based on sampling data from the two sampling programs: the at-sea observer programme and the at-market sampling programme conducted under the DCF. Domains have been defined, corresponding to the sampling programmes and are inserted in Table A. Unwanted catches are estimated based on the at-sea sampling data. In some cases there are length measurements for species (table D and F), where there is no age reading (table C and E).

Refusal rates from the at-sea observer programme are uploaded to table B and inserted in the table below by sampling frame and year.



<b>Sampling frame</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Bornholm- Trawler/Seiner	0.10	0.22	0.19
Charlottenlund- Trawler/Seiner	0.21	0.26	0.28
Hirtshals- OTB_CRU_32-69	0.25	0.44	0.55
Hirtshals- TBB	0.13	0.13	0.03
NorthSea- Trawler/Seiner	0.14	0.16	0.08
Skagerrak- Trawler/Seiner	0.29	0.13	0.14

In table A, the unwanted catches are partitioned by landings within the same *year, quarter, vessel length group, métier, discards domain, sub region and species*. If there is no samples of unwanted catches within that aggregation, the code “NK” is inserted.

Effort calculations are based on the principles agreed at the 2<sup>nd</sup> workshop on transversal variables in Nicosia 2016, but implemented in SAS. For vessels without logbooks, the effort calculation is based on sales notes where a trip (vessel-id + landing date) is assigned one day at sea and one fishing day.

## 4.2 Data availability

Transversal data (logbooks, sales notes, fleet register) is transferred from the Danish Fisheries Agency to DTU Aqua every night. Some errors may be corrected in the data from a previous year, but that is mainly done during the first quarter, so the data were available by the data call deadline. The processing of the biological data need to be finalized before the ICES data call and stock assessments, during the spring.

## 4.3 Coverage

### 4.3.1 Data checks

The effective effort (table I) is often smaller than the total fish days (table G). This is because in table I only effort by ICES rectangle from vessels with logbooks is known. In table G the total fishing days is calculated based on fishing days reported in logbooks. For vessels without logbooks, sales notes are available, and for each trip (vessel id + landing date) one fishing day is assumed.

Some species have a length measurement, but no age reading. This means that there can be domains in table F (length measurements) that does not exist in table E (age readings).

The total landings were lower in 2016 compared to 2015 and 2017 because of a very low sandeel quota.

### 4.3.2 Confidentiality

The data that has been marked as “Confidential” should not be made publicly available.

## 4.4 Problems encountered

As the transversal data is updated daily, there can be some differences in the tables based on transversal data only and the tables based on biological data (tables C, D, E and F) as the scripts extracting the transversal data is run at different dates. This should only cause minor differences.

## 4.5 Other comments if relevant

No other comments.

## 5 Estonia

### 5.1 Methodology

Official Information on landings/catches and effort by species, areas, gear types and mesh size were obtained from the Estonian Fisheries Information System (EFIS). EFIS compiles all logbook information as well as information on prices, sales etc. Data collection takes place according to DCF methodology and no derogations have been applied. Estonian fishing fleet is operating mainly in the Baltic Sea and to limited extent also in the Northern Atlantic.

All effort calculations were performed using the logbook information and landing declarations. Estonia is planning to start using the proposed by the DCF ad hoc workshop methodology to calculate the days at sea and fishing days from the next FDI data call.

For fleet segments landing values were estimated based on prices derived from sales slips multiplying by weight from landing declarations.

No refusals in getting biological samples and other relevant information were reported in 2015-2017.

### 5.2 Data availability

All requested information was provided by the FDI data call deadline.

### 5.3 Coverage

Provided data covers all Estonian commercial fishing fleet, which operates in Baltic Sea. Information about recreational fishery in Baltic Sea were not provided.

#### **General comments**

On overall, most of the requested information was available and presented except the effort of the small (under 10m) boats.

Discrepancies between “Spatial effort and Effort” are possibly caused by different approach used to get the effort values: spatial effort is calculated by the statistical rectangles while effort in Table G is presented by sub-regions. So if the vessel is operating within one day in several statistical rectangles, the visiting of each rectangle was registered as one fishing day in the respective rectangle. This causes the differences between spatial effort and total effort data sets.

Also, the zero value in fishing days described in the table “Spatial effort vs. Effort” was caused by the situation when vessel worked during the same day in 2 Sub-regions and the only that sub-region where vessel spent most of the time was counted.

A series of zeros in the table “Spatial landings vs. Spatial effort” was a result of the scarceness of respective effort information on the level of statistical rectangles.

Discrepancies described in the table “Wghtlandg vs. Vallandg” were caused mostly by the missing information on the value of the landings of small (under 10m ) boats and from vessels operating in the Atlantic.

#### **Comparison with Eurostat data.**

Landings and capacity data provided was very close to the information reported to Eurostat. The observed differences may be partly explained with the counting of inactive vessels in Eurostat dataset.

All provided during the FDI data call information is regarded as not confidential.

## 5.4 Problems encountered

Member state encounters persistent problems in obtaining effort information from the small boats operating with passive gears (coastal fisheries). In case of the small boats only information of Sub-region level is available. The scarcity of respective information prevents presenting the effort estimates by the statistical rectangles.

Additionally, the obtaining of the value estimates for the long distant fleet, what lands outside of Estonia is complicated.

## 5.5 Other comments if relevant

No other comments.

# 6 Finland

## 6.1 Methodology

Data collected and derogations (if applicable)

Everyone engaged in commercial marine fishery is obliged to provide catch declarations. Actors may be natural persons (person or business) or legal persons (limited liability company, a limited partnership or general partnership), engaged in fishing for commercial purposes.

Three types of catch report forms are used (Table 1.):

1. Fishing reports of vessels of 10 metres or more in overall length are usually submitted via the electronic **EU logbook** directly from the vessel to the enforcing authority.
2. Fishing reports of vessels under 10 metres in length, with the exception of species with catch quotas (up to 50 kg/day of Baltic herring), are given either on paper or electronically on a monthly **coastal fishing journal**.
3. Reports by vessels under 10 metres in length of species with catch quotas and up to 50 kg per day of Baltic herring are given in **landing declarations of coastal vessels under 10 m** for each fishing effort, either on paper or electronically.

Table 1. The reporting methods in use by the commercial marine fleet in Finland in 2018.

		Species caught		
		Regulated species by TAC: sprat, salmon, cod	Regulated species by TAC: herring	All other species
		Volume of daily catch		
Vessel length		≤ 50 kg	> 50 kg	
< 10 m	landing declaration	coastal fishing journal (electronic or paper)	landing declaration	coastal fishing journal (electronic or paper)
10-12 m	paper EU logbook	paper EU logbook	paper EU logbook	paper EU logbook

> 12 m	electronic EU logbook	electronic EU logbook	electronic EU logbook	electronic EU logbook
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Estimation procedures (in case something been used, e.g. estimation of landings and effort for the small scale fleet)

Fishermen report the catch of salmon, trout, cod, flounder, European whitefish and rainbow trout catch as gutted weight. For catch estimates, gutted fish is converted to correspond to ungutted fish by using conversion factors. The conversion factor of salmon and trout was 1.11; 1.17 for cod, 1.08 for flounder and European whitefish, and 1.2 for rainbow trout.

Unwanted catch calculation

Fishers are obliged to land all fish they catch (Regulation (EU) 2015/812) with some exemptions (Commission Delegated Regulation (EU) 2018/211). Catches from regulated species by TACs can be returned to the sea if they are damaged (by predators, disease or any other potential contamination). These catches are distinctly documented in the logbook.

Calculation of effort (following joint methodology or not). Tell us if R script have been used or its logics been implemented in SQL or other software.

TOTSEADAYS:

≥ 10 m vessels report the day of departure and the day of arrival, *totseadays* is calculated as the difference between these days. If the departure and the arrival are the same, then the sea days receives value 1.

< 10 m vessels the *seadays* is the same as fishing days

TOTKWDAYSATSEA and TOTGTDAYSATSEA

The power and tonnage are known by every vessel, but there is also fishing without any vessel under the ice. In those cases the value of these variables is “NK”.

TOTFISHDAYS

≥ 10 m vessels report the calendar day of each fishing effort. Fishing days are calculated on the basis of this information.

< 10 m report the number of fishing days

TOTKWFISHDAYS and TOTGTFISHDAYS

The power and tonnage are known by every vessel, but there is also fishing without any vessel under the ice. In these cases these variables are “NK”.

HRSEA

≥ 10 m vessels report the fishing time as hours and minutes

< 10 m vessels don't report fishing hours or minutes. HRSEA is always NK

KWHRSEA and GTHRSEA

≥ 10 m vessels report the fishing time as hours and minutes and the power and the tonnage is known by every vessel

< 10 m vessels don't report fishing hours or minutes, these variables are always NK

TOTVES

The number of vessels is known except in the cases concerning fishing under the ice. Only in those cases totves is NK.

Specific indicators (e.g. refusal rate)

Specific indicators are not routinely estimated in Finland. The evaluation of nonresponse rate was conducted in 2013. The nonresponse rate was estimated to be insignificant.

## 6.2 Data availability

Please comment if all the data was finalised and available by the data call deadline. When it can be available and provided in case there is a delay.

All the data was finalised and available by the data call deadline.

## 6.3 Coverage

Please have a look at quality checks in Tableau and provide your comments regarding the data collected and provided during the data call.

*General comments*

Provide general comments related to data coverage, explain why data is missing (in case something is missing)

Comments in case there is any difference with other STECF data calls, e.g. effort calculation for economic data call, or something missing/more data provided compared to economic or meds data calls)

The tableau is in practise impossible to read, the scrolling speed is very low on the screen, the data concerning Finland is hard to find.

*Comparison with Eurostat data.*

Provide any relevant comments regarding comparability of the data set provided (landings and capacity) with Eurostat data. Explain reasons for difference in case there is any difference.

There is no difference between Eurostat data and FDI data call data.

*Publication of confidential data*

Natural Resource Institute Finland (LUKE) is the national statistical authority. LUKE is authorized to respond to data calls and submit the requested data for the EU expert groups. The GDPR has to be considered when the data are summarized and published. This is relevant in Finland, because the amount of fishery operators is small and classification into subgroups may violate confidentiality.

The fundamental principle of official statistics is data protection, by which the availability of reliable basic data and the confidence of data suppliers is ensured. To be able to produce reliable statistics, the basic data obtained for the compilation of statistics must be as exhaustive as possible. This can be achieved when the data suppliers can be confident that data concerning them will be treated appropriately taking data protection needs into account.

## 6.4 Problems encountered

No other comments.

## 6.5 Other comments if relevant

No other comments.

## 7 France

### 7.1 Methodology

In accordance with the French DCMAP working plan 2017-2020, the French data submission for this data call is based on the following sources of information:

1. **French fleet register** (vessel characteristic (length overall, kilowatt, gross tonnage, age of the vessel), geographical indicator, total number of vessels)
2. **Annual fishing activity calendars survey**<sup>1</sup> (active/inactive vessels, typological classification of vessels by fleet/fishing technique coding, fishing area, métier)
3. **Logbooks** (over 10m'vessels) and **monthly declarative forms** (less 10m' vessels, declarative forms adapted to the special features of the small-scale coastal fisheries) (total weight of landings by species, fishing effort (number of trips, days at sea, fishing days and hours at sea), fishing area, gear and mesh size)
4. **Sales note data** (total weight and value of landings by species)
5. **Geolocalisation data** (inc. VMS data) (fishing effort (number of trips, days at sea, fishing days and hours at sea), fishing area)
6. **Complementary on-site sampling of trips**<sup>2</sup> (catch assessment survey) (total estimates of weight and value of landings by species, fishing effort estimates (number of trips, days at sea, fishing days and hours at sea), fishing area, métier)
7. **Scientific observer sampling data** (unwanted catch, length and age distributions)

The definition of the reference fleet population follow the definition of Commission decision 2016/1251 (any vessel registered on 31 december or which has fished at least one day in the year up

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<sup>1</sup> **Annual fishing activity survey** is conducted by fishing observers yearly in France on the basis of preliminary documentation provided by available data (*fleet register, logbooks, monthly declarative forms, sales note data, geolocalisation data, on-site samplings data*). It **covers the whole of the reference population** (*also vessels not cover by available data*), take place every year in the first month of the year on the previous year and aim at characterizing each year the inactivity or activity of all the vessels each month of the year and, in the latter case, the métiers practiced and the main fishing areas (*Berthou et al., 2008*). These data provide information on the part of fishing activity not included in available declarative data (*completeness check of the available declarative data*) and also the basis, if necessary, to re-evaluate available fishing activity data estimates (*in case of incomplete data for example*).

<sup>2</sup> **Complementary on-site sampling of trips** (catch assessment survey) is used to estimate fishing activity variables estimates of vessels for which the coverage and precision of their available declarative data are insufficient to meet the end-users needs. The sampling scheme is based on the frame survey (Activity survey) useful to optimise the strategy of the spatio-temporal on-site sampling plan. Fishing trips features, effort and catches and weekly activity calendar (effort) are sampled directly on-site, when the fishers come back to the harbour. The raising method is based on a post-stratification of the fishing trips and weekly calendar sampled and the use of the percentile bootstrap to estimate the precision. In 2015, 2016 and 2017, this applies for vessels under 12m in the Mediterranean continental area (GSA 07), Réunion, Mayotte, French Antilles and French Guiana.

to 31 december) in order to have a comprehensive view of the fishing activity applied during the year.

The definition of all the fishing trips of the French fleet with their associated features (dates, fishing area, gear and mesh size, total weight and value of landings by species) is based on a cross-validation tool: SACROIS<sup>3</sup> of the different available data (fleet register, annual fishing activity calendars, logbooks, monthly declarative forms, sales note data, geolocalisation data) aiming to provide the best possible fishing statistics data.

A specific algorithm is included into SACROIS to estimate the value of landings based on sales note data available (sometimes directly deducted from them) or estimation of an average price. For some fleet segment, estimated price based on expert knowledges is also used. **This algorithm allow to estimate value of almost every landings, only few species/fleets do not have value assigned. The two principal fleets without value assigned are the tropical purse seiner and the Guiana shrimp trawler.**

SACROIS include also the allocation of a single metier to a fishing trip, based on the dominant landed specie (or group of species) in value, the vessel' activity calendar survey and eventually the gear (see detailed methodology explained in 'Anonymous, metier workshop report, 2018').

For French fleets for which the coverage and precision of their available declarative data (basically SACROIS data) is insufficient to meet the end-users data needs (e.g. DCF requirements): 1/ complementary on-site sampling data could be collected (catch assessment survey) and-or 2/re-evaluation methodology (on the basis on the annual fishing activity calendars survey) could be applied, in order to calculate the reference fishing activity' estimates.

Based on that, fishing capacity and activity' estimates could be calculated for the whole of the reference population (French fleet register including small-scale fleets). They are conform to the requested aggregation (by year, quarter, vessel length classes, fishing technique, gear and mesh size, métier, fishing area) and cover all the areas where French vessels are operated.

Fishing effort estimates (number of trips, days at sea, fishing days and hours at sea) have not been calculated by using the generic R script provided for this data call as is not suitable for vessels without logbooks and for vessels outside FAO area 27 (need to have ICES rectangle). Nevertheless, the common joint methodology developed during the 2<sup>nd</sup> transversal variables workshop was implemented on our data (development of an adapted R script) in order to calculate the estimates and answer the datacall.

Unwanted catch and length/age distributions estimates have been calculated based on the scientific observer sampling data (at sea and port-sampling program). The unwanted catch data from logbooks were not used.

Unlike fishing capacity and activity' estimates (see above), biological data estimates are not available at the level of aggregation requested (notably for unwanted catch estimates asked in table A).

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<sup>3</sup> **SACROIS** (<http://sih.ifremer.fr/Description-des-donnees/Les-donnees-estimees/SACROIS>) is a validation tool for the fisheries statistics, aiming at cross-checking data from different declarative sources, as demanded in article 145 of the EU control Regulation (EC Reg. 404/2011). The application is crossing information, at the most disaggregated level, from the fishing fleet register, logbooks, monthly declarative forms, sales notes data, geolocalisation data and the scientific census of annual fishing activity calendars, in order to build a dataset compiling the most accurate and complete information for each individual fishing trip. The application verifies and controls the different sources of data, with the aim of displaying validated and qualified landings per species and effort data series. The application provides also several quality indicators and evaluates the completeness of the data flows.

Indeed, unwanted catch and length/age distribution estimates are calculated following specific strata definition in space, time and metier and in respect with the sampling design. They are estimated after a post-stratification process where metier, fishing area and quarter could be aggregated in order to maximize the number of sample by strata and provide the most complete information possible for a given stock (i.e. level of disaggregation is determined by the number of samples). Additionally, strata definition are annually specific for each stock assessed. For example, for the sole stock in 27.7.d and for the ICES datacall in 2018, the OTB\_DEF\_70-99\_0\_0 metier submitted in Intercatch encompass the following declared metier: OTB\_CEP\_70-99\_0\_0, OTB\_DEF\_70-99\_0\_0, OTB\_MOL\_70-99\_0\_0, OTB\_SPF\_70-99\_0\_0, OTT\_CEP\_70-99\_0\_0, OTT\_CRU\_70-99\_0\_0 and OTT\_DEF\_70-99\_0\_0.

This complex process applied annually specifically by stock (based on expert' analysis) do not allow to provide biological data estimates by domain definition as requested in the FDI datacall. Finally, validated biological estimates calculated by expert (e.g.by ICES stock assessor) have been submitted in the tables C-D-E-F following the strata they retained to extrapolate the sample (e.g. submitted ICES strata). **This has the benefit to provide only approved biological data estimates.**

Strata have been re-coded in order to follow the datacall definition but, in most cases, do not reflect all the métiers/fishing area aggregated in order to build the strata (see example above). **Consequently, it is not possible to use straight the domain definition available in tables C-D-E-F to link biological data estimates provided in these tables with information available in table A.** Additionally, and as the result of the same issues raised above, "domain\_discards" and "domain\_landings" information were not submitted in table A.

Finally, the partitioning of unwanted catches estimates available in tables C-D-E-F (according to strata used to calculate the estimates) into detailed categories asked in table A was also requested by the FDI datacall following the conclusion of the STECF Expert Working Group 17-12 which nevertheless, and in the same time, emphasizes the limited meaningfulness behind any partitioned estimates ('estimates will likely not be statistically sound and may be biased because for example of the need to assume equal discard rates among the disaggregated levels contained within the retained strata'). **Regarding that and issues raised above, no unwanted catch estimates partitioned were provided in table A, approved unwanted catch estimates could be found in tables C-D.** Same issues result in that no refusal rate have been so far submitted.

So far, data have not been highlighted as being confidential because a common approach is missing. However, there are many issues related to these data where certain lines hold information for less than 3 vessels. Before any data are published (e.g. in dissemination tools), a further check is needed to identify issues based on a common agreed approach in line with European law. In addition, often not all variables are regarded as being problematic. For example, information on the value of landings or unwanted catch is more sensitive than landings. Options are missing to define in more detail what is confidential and what not.

## 7.2 Data availability

Mainly data were uploaded before the deadline of the data call also taking into account the error report coming from the JRC Data Validation tool. Nevertheless regarding the complexity of the datacall, data' coverage actually available in the FDI database remain not fully complete (see below). The current data can be regarded as final given current knowledge. However, data could be improved/completed before next datacall (especially for the most recent year 2017) and re-upload of data revised for 2015-2016-2017 will be done for the next year datacall (including the complementation of data today not included in the database).



### 7.3 Coverage

By the deadline of the datacall, estimates from complementary on-site samplings data could not be put in the requested format and consequently have not been included in the data submitted. Estimates are available and will be included in the next year datacall answer. **Therefore, fishing activity' estimates actually included in the FDInew database for 2015, 2016 and 2017 do not completely include vessels less than 12m from the Mediterranean continental area (GSA 07), Réunion, Mayotte, French Antilles and French Guiana.**

Some technical issues occur also in the calculation of the Table J which remain, as it is, incomplete in FDI database. Data is available and will be included in the next year datacall answer. **Therefore, fishing capacity' estimates actually included in the FDInew database for 2015, 2016 and 2017 do not completely include vessels less than 12m from the Mediterranean continental area (GSA 07), Réunion, Mayotte, French Antilles and French Guiana.**

Up to now, no upload facility is given for data where area information (at the sub-region level) is missing. Few French fishing statistics data (less than 1%) have area information available only at the supra-region level (FAO area). These data are therefore missing in the FDInew database.

Furthermore and considering the spatial distribution tables H&I (landings and specific effort data by rectangle/c-squares), **spatial data have been only submitted for fleets operating in FAO zone 27** (Atlantic, Northeast) **and for the long distance fleets** (tropical purse seiners). Indeed, data at the finer spatial resolution asked (e.g. GFCM squares) are, up to now, not available for other French operating FAO zones (37-Mediterranean and Black sea, 31-Atlantic Western-central, 41-Atlantic Southwest, 51-Indian Ocean Western). In fact, it is particularly difficult to estimate small vessels spatial distribution by the finer spatial resolution asked as they don't have geo-localization data available (e.g. VMS data).

Moreover and for fleets operating in FAO zone 27, some fishing activity data (~5% in landings) have only area information available at the sub-region level (e.g. ices division, no ices rectangle available). No upload facility is given to submit such kind of data in tables H&I and therefore they are missing in. As a consequence, spatial distribution tables are not fully consistent with data provided in the tables A and G (total fishing effort and landings by species figures could differ).

#### **Comparison with Eurostat data.**

Minor differences occurred between FDI data and Eurostat likely caused by differences in time and completion status of available data when the estimates were provided. Mainly, species and areas reported in Eurostat are also available in the FDI database.

Nevertheless, some issues could occur on the codification of species used that could differ between the two database (as an example in 2016, 'ANF- Lophiidae' is used for EUROSTAT when 'MNZ- Lophius spp' was used for FDI). As explain above, FDI database remain also incomplete for some specific fleet which explain mainly the other issues occurring comparing the two database.

### 7.4 Problems encountered

Issue remain regarding the datacall list of reference of métiers. Several mesh-size ranges are agreed by métier presenting sometimes intersections and mesh size ranges do not all have a related mesh size range available (need to use NA in this case). No general rules to define mesh size ranges by métier seems to have been agreed. This enforce data providers to make a choice between all the codes available and as a consequence make it impossible to compare fishing data by métier between MS. **Target assemblage and mesh size ranges asking separately should be preferred** unless the issue is not solved.

## 7.5 Other comments if relevant

No other comments.

## 8 Germany

### 8.1 Methodology

The German data submission for this data call is based on the following sources of information:

1. Logbook and Landings data (Wanted catch, Value, Spatial effort and Landings etc.)
2. German fleet register (Number of vessels, Fleet determination etc.)
3. Scientific observer data (Unwanted catch, length and age distributions)

Effort has been estimated by using the generic R script provided for this data call. Germany provides information for all vessels with an obligation to report all necessary information in logbooks.

Unwanted catch was estimated based on observer data and not from logbook information as the landing obligation was still not fully implemented in 2017 (last year of the data call). For métiers that were not sampled, an NK for “not known” was provided to allow for JRC raising routines to be used to fill gaps.

German refusal rates correspond to a rejection rate (only successful contacts were counted)

Germany has so far not highlighted data as being confidential because a common approach is missing. However, there are many issues related to these data where certain lines hold information for less than 3 vessels. Before any data are published e.g., in dissemination tools, a further check is needed to identify issues based on a common agreed approach in line with European law. In addition, often not all variables in a certain line are regarded as being problematic. For example, information on the value of landings or unwanted catch is more sensitive than landings. Options are missing to define in more detail what is confidential and what not.

### 8.2 Data availability

All requested data were uploaded before the deadline of the data call. With the help of the JRC checking routines smaller issues were encountered impacting age and length distributions. Therefore, Tables A-F were re-uploaded before the operational deadline. The current data can be regarded as final given current knowledge. However, the German administration implemented a new database for logbook and landings data in 2017. This could have led to problems not yet encountered. A further review of data is planned for 2019 including also 2018 data.

### 8.3 Coverage

For the three years all requested data were provided for all tables before the deadlines. For some métiers with small importance (i.e. trips with mussels as target species) catches were reported but no effort according to the JRC checks. This has likely to do with the métier field that makes it likely that for the same trip slightly different allowed codes are used if different people work on different tables. On a more aggregated level the information may still be available.

#### **Comparison with Eurostat data.**

Minor differences (<3% in total) occurred between FDI data and Eurostat likely caused by differences in time and completion status of logbook data when the data were provided. Species and areas reported in Eurostat are also available in the FDI database. Major differences in landings weight

occurred only for freshwater species landed in the Baltic mainly by small vessels without the obligation to report their catches in logbooks (not in FDI table A, but in Eurostat). Only for horse mackerel (JAX) a larger discrepancy was encountered for 2015 and 2016.

## 8.4 Problems encountered

Vessels without logbook data (small vessels  $\leq 8\text{m}$  in the Baltic and  $\leq 10\text{m}$  elsewhere) are problematic. A common approach to answer the data call for these vessels where data by fishing trip is not available would be beneficial before useful summaries over different countries can be achieved. An extra table with less details for these vessels could be also an option.

Refusal rates may be renamed to rejection rate as only successful contacts may be counted.

The metier field in its current format is not useful as various codes can be used for one single gear and mesh size combination in a given area. This makes it difficult to compare between countries but it also creates problems inside the country if different people work on different tables. Further guidance is needed to ensure that all use the same metier definition in the same situation. In general, the metier field could be deleted as all important information is already provided in the other columns including the target assemblage.

Especially the target assemblage DEF is not very helpful. Too many different fisheries count as DEF. A further differentiation (e.g., roundfish vs. flatfish) could be beneficial.

How to define confidentiality was unclear. A common approach to identify confidentiality based on EU law needs to be developed. In addition, so far only a full line can be highlighted as being confidential while maybe only certain columns are confidential while others are not.

## 8.5 Other comments if relevant

As requested in the data call, Germany provided unwanted catch information based on scientific observer trips because the landing obligation is still not fully implemented. Therefore, all uncertainties related to unwanted catch sampling and raising at fleet level applies to the values provided and do not represent an official value reported in logbooks. The unwanted catch provided can give a general idea on the level of unwanted catch (BMS and discards). Next to this, unsampled metiers were filled with information from other countries by JRC. This adds further potential uncertainties and bias.

# 9 Ireland

## 9.1 Methodology

The Irish data submission is based on the following sources:

1. Logbook (vessels  $>10\text{m}$ ) and Sales Notes (vessels  $\leq 10\text{m}$ ) data (wanted catch, value, spatial effort and landings etc.)
2. Fleet register (Number of vessels, Fleet determination etc.)
3. Scientific observer data (unwanted catch, length and age distributions)

Estimates of unwanted catch were raised from the national sampling scheme, for which the strata are defined within the variable "Domain\_discards". No estimates of unwanted catch were provided for unsampled strata, and were marked as "NK". Only estimated values of unwanted catch were provided in table A. Estimates of unwanted catch were raised to the fleet level for each year, quarter, gear, area, and species. Fishing effort (hours fished) was used for all species as the auxiliary variable. The

discard rate (kg/h) and age composition (where applicable) were then applied across the remaining strata (vessel\_length; mesh, fishery; specon\_tech) based on the effort (fishing hours) in each of these strata. Discards that were observed to be zero are included. Age and length distributions for landings were estimated from market sampling and the at sea sampling programme.

Irish biological landings information is not recorded with mesh size information; this was re-constructed by linking to the logbooks database, where possible. The age composition of the landings was estimated for each quarter by gear, area and species (any further disaggregation would violate the sampling design). The age compositions were then assigned to each of the remaining strata (vessel\_length; mesh, fishery; specon\_tech) based on the reported landings in each of these strata.

Effort was calculated using the fecR package. Refusal rates could not be provided this year as Ireland is currently in the process of implementing a new sampling plan and refusal rate system. This system was implemented at the end of 2017 and will be ready to provide data for 2019 FDI datacall.

## 9.2 Data availability

Logbook and sales not information was finalised and deemed complete in April 2018. The landings and effort information for vessels >10m is derived from logbooks, whereas for vessels it is derived from sales notes. The effort information which is estimated from sales notes is done so by applying very broad assumptions for certain species/gears, after which there are a number of trips of vessels under 10m for which we cannot make these assumptions and therefore do not estimate the effort.

## 9.3 Coverage

Data was provided for all three years requested (2015 – 2017) for all tables before the deadlines.

- **Tableau checks:** Overall there was good consistency between table A and tables containing biological samples (C,D,E &F). There were very few domain names in the biological tables that could not be matched to métiers in table A. Data checks on tableau revealed a few inconsistencies between effort tables. These issues have mostly arisen due to the fecR package estimating the wrong “effective fishing effort” due to the wrong trip start and end dates being logged in the logbooks, therefore the fecR package calculation didn't run correctly.
- **Eurostat data comparison:** There is generally good consistency between Ireland's FDI submission and the Eurostat extraction. The only major difference is in the vessel numbers, however the Eurostat list works on vessel numbers that include inactive vessels.
- **Confidentiality:** Ireland considers that any aggregated operation that contains less than three vessels should be marked as confidential. There is a need for the Commission to clarify the legal requirements and methodology which should be applied in this section.

## 9.4 Problems encountered

No problems were encountered during the data collection. Two problems were encountered during the data submission process. No length information could be provided this year for *Nephrops* as there were issues linking functional unit sampling to ICES areas, as they are sampled and reported on different levels. This will be resolved for 2019. Ireland could not provide refusal rates this year as a new sampling and refusal rate logging system was implemented at the end of 2017. This system is now fully implemented and Ireland will be ready to report on this for 2019 datacall.

The wrong discard rates for *Nephrops* were uploaded for table A. Unfortunately, this error was not spotted until Friday 21/09/2018, therefore it was too late to re-upload the data. However, the chairs kindly accepted a corrected version of table A by email.

## 9.5 Other comments if relevant

In its current format the FDI working group are faced with a very demanding and diverse work load, which as a result the data was not interrogate no a regional (i.e. Celtic) level, this leaves the final publishable dataset vulnerable to errors of magnitude and mislabelling. Not only was the EWG tasked with cleaning the data, improving the data call and answering commission requests for *de minimis*. If the primary goal of FDI is to provide a serviceable dataset which the commission can use for decision making purposes, then adequate time **must** be given to achieve this.

## 10 Italy

### 10.1 Methodology

#### ***Data collected and derogations***

No derogations. Effort and production data were collected for all the métiers. Biological sampling of landings and discards is implemented for the métiers selected by the “ranking system” following a regional approach (RCG MED&BS and PGMED).

#### ***Estimation***

Estimation procedures strictly follow those reported in the Italian National Program for data collection.

#### ***Unwanted catch calculation***

Italy reported the volume of discards (and not all the catches under MCRS) to be coherent with data provided in the MED data call.

#### ***Calculation of effort***

According to the work done within the “Workshop on VMS + logbook data compilation” (Copenhagen 15-16 March) and the related discussion, an edited version of the script developed by ICES has been used to process Italian VMS and Logbook data in order to obtain some of the outputs of the FDI data call (namely the TABLES H and I). The edited version of the script strictly follows the logic of the original script, while just some aspects of the output preparation (i.e. definition of SUB REGION) have been changed.

### 10.2 Data availability

All data were provided according to the deadline.

### 10.3 Coverage

#### ***General Considerations***

Unwanted catches are characterized by a high spatial and temporal variability. Accordingly, the estimated landings largely differ between years and quarters. As a general consideration, it could be useful to increase the sampling rate, in particular for the species with sporadically appear into catches.

Table H and I were not submitted for the year 2015, since the amount of logbook data that passed the preliminary checks has been considered too low.

About spatial data (Tables H and I), it is important to stress that landings and effort data by rectangle are available only for vessels > 12m lft for which the electronic logbook is mandatory and for which it is possible to associate VMS data (they represent approximately 13% of the fleet). Availability of spatial data is subordinated to the completeness of the submitted data (both LB and VMS).

### **Comparison with Eurostat data.**

The data sets provided are fully comparable with the Eurostat data. The differences in total landings by year range around 5% (in mean). The FDI total landings by species are also comparable with the Eurostat data, with the exception of few species that, however, represent a negligible portion (0.2 %) of the total production (i.e. AGK, BRB, CBM, MMH, SNQ, SPC).

### **Publication of confidential data**

*Table H (Landings data by rectangle for 2015 and 2016 in tonnes) and Table I (Specific effort data by rectangle for 2015 and 2016 in units of fishing days)*

It is important to notice that only a subset of the whole Italian Logbook dataset for years 2016-2017 was used. In particular, only the Fishing Activity Reports (FAR) that passed a preliminary quality check were used. This preliminary quality check was aimed to exclude records with missing or unrealistic data in critical fields (e.g. spatial and temporal coordinates, species in the catch or related quantities). Thus, the obtained output should be considered as preliminary and the related analyses should be evaluated as a pilot exercise. Accordingly, the maps obtained during the EWG should be used only for methodological considerations and should not disseminated since they do not represent a sound assessment of the real fishing footprint.

## **10.4 Problems encountered**

### **Problems related to data submission**

Some issues were experienced during the data submission. In particular, when most of the tables correctly uploaded during July were re-uploaded in August (this re-upload was needed because we some information/data in one GSA have been changed) the system returned a series of errors and warnings previously absent.

## **10.5 Other comments if relevant**

No other comments.

# **11 Latvia**

## **11.1 Methodology**

All data on fishing operations e.g. gear, mesh size, area etc. are obtained from official logbooks, which are stored in Integrated Control and Information System for Latvian fisheries (ICIS). These logbooks cover all the areas where Latvian fishing fleet is operating including the small scale fleet. Information about fleet capacity is synchronised with Latvian Fleet register and is stored in ICIS. Central Statistical Bureau of Latvia (CSB) provides annual average prices per species, based on questionnaire "1-Fishery", which all fishing companies are obliged to fill in.

Unwanted catch was calculated as estimated discards from observed trips including landings below MCRS (Minimum Conservation Reference Size).

In period of 2015-2017 no refusals to take observers on board were recorded.

R script have been used for effort calculation in case of offshore fishery. For small scale fleet effort was calculated as one day at sea is equal to one fishing day, because information in coastal logbooks is provided on daily basis.

## 11.2 Data availability

Latvian data were provided on time and in accordance with required format. Average prices per species for 2017 were used from 2016. Prices for 2017 could be available in autumn of 2018.

## 11.3 Coverage

Quality checks in Tableau showed only one row when the effective effort and the total fishing days values have different values. The difference is only one day and it could be explained as different rounding approach for each parameter.

It was discovered, that for 2017 effort parameters (totkwdaysatsea, totgtdaysatsea, totkwfishdays, totgtfishdays) were calculated incorrectly and are extremely high. Next year this problem will be solved and table G for 2017 will be resubmitted.

Provided data covers all Latvian commercial fishing fleet, which operates in Baltic Sea. Information about recreational fishery in Baltic Sea were not provided. Due to confidentiality information about distant fleet were not provided. Data were calculated and provided in the same way as for economic data call.

Comparison with Eurostat data showed big difference in landings because due to confidentiality information on distant fleet landings were not provided. As information about recreational fishery was not provided, there are small differences in landings values for fresh water species between the two datasets.

All data were provided as not confidential.

## 11.4 Problems encountered

No problems were encountered related to data collection or related to data submission.

## 11.5 Other comments if relevant

Parameter Inactive vessels should be added to Table J for comparison with Economic data call and Eurostat.

# 12 Lithuania

## 12.1 Methodology

For all fleet segments by regions the transversal variables is deriving from database system FDIS, which contains the primary data referred to Commission Regulation (EC) No 26/2004 of 30 December 2003 on the Community fishing fleet register in Annex I and Council Implementing Regulation (EC) No 404/2011 in Annex X. Community fishing vessels from 8 to 12 metres' length overall are obliged to keep a fishing logbook and submit landing declarations. Fishing vessels of 18 metres' length overall or more, the fishing logbook is in electronic form and the landing declarations are submitting electronically. The Lithuanian fleet does not consist of any active vessels with the length class of 12 to 18 meters. Biological data is collected under the Lithuanian National Programme according to the sampling strategy. For estimating unwanted catches have been used three data sources: data collected by observers on board, records in official document (logbooks and sales notes) and sampling of releases. Under multilateral agreement Lithuania takes a part of biological data collection on pelagic fisheries in CECAF.

For the Baltic Sea region specific condition information is based on the assumption that all bottom trawl which mesh size over 105 millimetres fitted with BACOMA selective devices. Lithuanian fleet do not use drifting lines (LLD). Any Lithuanian vessels are concerned by the fully documented

fisheries (FDF) specific condition. List of vessels is approved by national legislation and covers the whole segments population.

For all fleet segments value is estimating based on prices derived from sales notes multiplying by weight from landing declarations.

Submitted refusal data set constitutes of the sampling frames based on vessels grouped according their main fisheries conducted by areas. Unfortunately, refusal rates at the Baltic Sea region are not available recently.

Data on landings for vessels less than 8 m length overall was derived from the combination of the monthly declarative forms which have been cross-checked with sales notes. Combination of information from sale notes and declarative form provide the key details on the species, presentation, location of landings, weight and value of fish being landed. To approach reliable and high quality of data Lithuania uses a “census” type of declarative form for vessel. Data derived from national logbook are completing by a company engaged in commercial fishing in the Baltic Sea coastal area. Small scale fleet has a daily activity and 1 Day at Sea assumed as equivalent to 1 Fishing Day, 1 Fishing trip and 24 hours.

Spatial data was prepared using “0.5\*1” resolution for ICES and CECAF areas. CECAF area waters fishing activities was identified using the VMS data.

R script was used for calculations of days at sea and fishing days.

## 12.2 Data availability

Transversal data by 1 February and biological data by 1 April are available for previous year.

## 12.3 Coverage

The submitted data covers all areas requested in the data call and conforms to the requested aggregation, by quarter, area, gear and mesh sizes. Any meaningful data quality issues demanding correction and re-submission of data sets was raised during quality checks.

Data set submissions complied with the required deadline dates. In respect of data check reports, four revised data sets were also resubmitted by the operational deadline.

Insignificant values of squid landings are missing. Species data was obtained from sales notes as there is no established methodology to link that catch to effort.

Between Economic and FDI data calls, some discrepancy in value and landings data might occur with regards to fishing trips which extended over two different years where the landing was presented in the final year. In that case, effort with catch and landed value might be provided parcelled by two years for the FDI data call. As for the Economic data call, the submission is based on the landing or sales date.

Due to differences in requests of Eurostat and FDI data calls for both active/inactive and only active fleet respectively, submitted data comparability might not be so accurate. Only significant discrepancies can be noticed in data checks, which has not been shown in Lithuanian data.

Some discrepancy occurred with regards to fishing trip which extended in two different years and landings presented in the latest year. In that case effort with caught and value might be provided parcelled by year in data sets for FDI data call. As for Eurostat data submission based on landing or sales date.

There is some difficulty in explaining differences between submitted data to Eurostat and the FDI data call. For example, with regard to Atlantic chub mackerel landings provided on Eurostat basis, no



clarification can be provided as to whether that species information was obtained from the primary data system FDIS database. As well as for Economic data call, for Eurostat data some discrepancy in value and landings data might occur with regards to fishing trips which extended over two different years where the landing was presented in the final year. In that case, effort with catch and landed value might be provided parcelled by two years for the FDI data call. As for the Eurostat data, the submission is based on the landing or sales date.

Data that considered subject to confidentiality and were flagged in "CONFIDENTIAL" column allows statistical unit vessel to be identified, either directly or indirectly, thereby disclosing individual information. The confidential data can be used for EWG ToRs purposes. Aggregated and/or published data should be on the level, which does not allow any identification of the statistical unit.

#### 12.4 Problems encountered

Information between vessels where observers are welcomed and vessels where observers are refused in the Baltic Sea region shall be improved as recently is it not available.

In some cases, allocation of métier to trip or fishing operation was highlighted as issue. There are no general concepts on the target species (or target assemblage) as a definition criterion, neither clarification on target assemblage specification in case of efforts without landings. That could lead to inconsistency between Member States.

No problems with data submission were encountered

#### 12.5 Other comments if relevant

No other comments.

### 13 The Netherlands

#### 13.1 Methodology

Landings information is based on logbook data. The landed weight by statistical rectangle was estimated by dividing total landings by trip according to the period present in respective rectangles based on effort information from logbook data. The annual estimates of discard, based on information from national monitoring programmes under the data collection framework have been assumed to apply for unwanted catch estimates. In case, monitoring could not provide discard information, because there was no sampling coverage, a "NK" (not known) was applied.

Calculation of effort is done in SQL. Days at sea are calculated based on the period between leaving and entering the port. Period is rounded by whole days. Number of fishing days are the number of unique fishing days within a fishing trip. For active fishing gear there can only be one fishing day by gear. For passive gear, a multiple gears, or gear units, can be applied during one day. For example, a vessel sets 3 different gillnets, this is counted as 3 fishing days.

#### 13.2 Data availability

The data was finalised and available by the data call deadline. However, during the work group table A was adjusted and re-uploaded, because of a change in the calculation of "unwanted catch", see section 1.1.5 below.

#### 13.3 Coverage

The Netherlands provided fleet specific landing and effort data for the period 2015-2017. The data covers all areas in which the Dutch fleets are active and conform to the requested aggregation.

There is no information on misreporting, although the reliability of the official unwanted catch records in the official logbook registration is believed to be questionable and, therefore, not used. Unwanted catch estimates were provided for all species caught in fisheries sampled under the Dutch monitoring programme. Within this monitoring programme for discard/catch and biological data a study fleet is used, which sample catch data. The participating group of vessels is representative for the complete demersal Dutch fleet. Pelagic, shrimp and passive gear (small scale) fisheries are monitored with an observer programme of which the sampling coverage is limited.

#### ***General comments***

The number of on-board sampling trips achieved in the brown shrimp and passive gear fishery was not sufficient for estimation of unwanted catch.

Some small landings in Table A have a corresponding value of zero for days at sea and fishing days in Table G (effort). This is potentially a rounding issue.

#### ***Comparison with Eurostat data.***

There is a significant difference in landings between FDI and Eurostat for area 34 (Atlantic, Eastern-Central). For the other area, area 27 (Atlantic, Northeast) there is good agreement between FDI and Eurostat landings data. There is a difference between the number of vessels, FDI recorded structural lower number of vessels for the period 2015-2017.

#### ***Publication of confidential data***

Because aggregation levels are high, data were not marked as confidential. Therefore, for the submission of FDI data in 2018 no data was considered confidential in the Dutch data set.

### **13.4 Problems encountered**

#### ***Problems related to data collection***

For the monitoring on board commercial fishing vessels refusal rates, refuse to have an observer on board, should be recorded. However, for the monitoring of demersal fisheries the Netherlands implement a study fleet, see also section 1.1.3. above. Participating fishers sample catch on a regular basis, also observer go on board to validate the sampling programme. Refusals are never encountered. Because of the high level of cooperation makes recording of refusal rate oblivious and are therefore not recorded.

For the monitoring of passive gear/small scale fisheries, attempts of setting up a system to record refusals rates failed in previous years. Main reasons were incomplete vessel lists and contact details of fishers.

### **13.5 Other comments if relevant**

Initially unwanted catch records were based on a combination of data collected during in national monitoring programmes and official logbook registrations: In case discard information was available from the monitoring programmes this was used, in case monitoring programmes could not deliver information for a particular record official logbook data was used. Due to misreporting, or not reporting, unwanted catch an unrealistic amount of low and zero catches were registered. These zero's effected the process of data extrapolating in case data is missing and cells and unwanted catch is estimated based on data of other member states, the zero's produced unrealistic low unwanted catch ratio's in the STECF data base. After consultation with the workgroup it was decided to exclude the unwanted catch registrations based on official logbook data.

## 14 Poland

### 14.1 Methodology

Official fisheries data of the Polish fleet from the period 2015-2017 were collected from the database administrated by the Ministry of Maritime Economy and Inland Navigation.

Polish fishery is located mainly in the Baltic Sea, therefore sampling effort is concentrated in this area, except one sampling trip per year in the Eastern Arctic. Additionally, Poland is a member of the multilateral agreement to cooperate in the biological data collection on pelagic fisheries in CECAF and SPRMFO waters.

Unwanted catches were estimated from trips sampled at sea. Domains used to estimate unwanted catches result from the sampling plan applied. For the Baltic Sea the domains consist of quarter, FAO subdivision, gear type, target assemblage, mesh size range (one or more) and are used for all vessel length classes, species and commercial categories. For Eastern Arctic the domains consist of FAO division, gear type, target assemblage, mesh size range and are applied to whole year, all vessel length classes, species and commercial categories.

Fishing effort was calculated following the methodology agreed on DCF Transversal Workshops. The fecR package was not used directly because the input data has a higher level of spatial aggregation (national sub polygons of the ICES rectangles in the Baltic Sea). Therefore, the logic of the fecR calculation algorithm was re-implemented in the R environment.

For vessels with length of <10 m the information on the start and end of the trip is not registered. It was assumed that one fishing day is one fishing trip lasting 8 hours at sea.

Refusal rates were calculated as a number of refusals from vessel owners divided by the number of approaches where the contact was successfully made.

The total value of landings was calculated using an average price per species. The average annual exchange rate was used to provide the value in Euro.

Spatial data was prepared using "0.5\*1" resolution for all areas. For FAO area 27 information on ICES rectangle was used to identify the coordinates. In the case of distant waters, the fishing location was identified using the VMS data.

Segmentation of the fishing fleet in terms of vessel length classes and fishing technique was carried out in the same way as in the economic data call.

### 14.2 Data availability

All the data was finalised and available before the data call deadline.

### 14.3 Coverage

#### *General comments*

The data analysis allows to state that all variables seem to be consistent across years. Very few issues have been identified and are described below.

Information on the value of landed fish from outside the Baltic Sea is not available. Additionally, for some minor species in the Baltic Sea the value is not available. There are also records in which the landing weight was so low that the value was rounded to zero.

#### *Comparison with Eurostat data.*

The comparison with Eurostat data did not show any significant differences. Unlike FDI data, the number of vessels in the Eurostat data also includes inactive vessels.

#### *Publication of confidential data*

In the period 2015-2017 Poland had 3-5 vessels fishing outside the Baltic Sea. Due to the national statistical law it was decided to mark the data about their activity as confidential to avoid the risk of identifying single vessel.

#### 14.4 Problems encountered

##### *Problems related to data collection*

At the beginning of 2017 a new sampling design was implemented in Poland. The major change was a move towards statistically sound sampling and random selection of sampling units. As a consequence the refusal rates were provided only for 2017 as in the previous years the sampling design was based on the opportunistic selection of sampling units. Moreover, 2017 was a transitional period between old and new sampling design. Not all contacts to vessel owners were available and as a consequence, many expert trips were done.

##### *Problems related to data submission*

No problems with data submission were encountered.

#### 14.5 Other comments if relevant

No other comments.

### 15 Portugal

#### 15.1 Methodology

Portugal uses 3 different data sources: fleet register, logbooks and sales notes.

Transversal data are obtained from logbooks and sales notes taking into account the Control Regulation and the national Work Plan. This data is combined to get the more accurate information from both sources when available for the same vessel. Daily routines from established business rules are performed in order to detect and correct errors push from the data sources to statistical database.

As Landings and Effort are requested at a métier level, Portugal developed, for the mainland, a procedure that classifies each trip in a metier. The procedure is split in different methodologies concerning the characteristics of each vessel. For vessels without logbook it is used the Software "Spoon" to apply all the conditions laid down in the algorithm based on Sales Notes and Fishing Permissions (licenses). In each condition similar set of data (landings/trip) are to allocate to a metier. For vessels with logbook, the methodology is run in SQL and is based on the information recorded in the ERS reports, such as gear and reported catches for each haul in each FAR report. The present version of ERS don't have the definition of TRIP connecting all the reports. The new version is in implementation tests and the new data model can, possibly, bring an improvement in data quality.

The approach for FDI data call is based on the concept of TRIP. In that way each trip is classified in terms of date, area, gears, metier, species, catch (kg), discards (kg) and catch value. Concerning the spatial information request only data from logbooks was used get from Fishing Activity Report at the haul level.

##### **Landings**

For vessels with logbooks, the weight of landings corresponds to values estimated by the fishermen for each species, recorded at logbook. The value of landings is then calculated multiplying the weight by the average price calculated for the specie and fishing area. For SSF, the weight and value of

landings are the ones that are recorded in Sales Notes. All vessels are obliged to sell at the action place.

To remark that with the high number of vessels, annual trips, foreign landing places, not always is possible to get information on the Landing Declaration at time to perform the data calls. Thus, the best is to take the landings from an approximation of catches in logbooks.

### Unwanted catch calculation

Unwanted catches were reported based in two different data sources.

Data provided for 'Unwanted Catch' in table A corresponds to values filled in on Logbooks by the vessel's master. (For SSF it was not possible to get this information for the required disaggregation level). It's not possible to identify BMS once there is no distinction of the discard's reason. Only with an estimate approach would be possible to get the Unwanted Catch. The data call letter was not explicit regarding to variable definition and connection between table A and biologic tables.

By other hand, on tables C and D unwanted catches are estimations based on biological sampling. In these cases, unwanted catches were provided only for the trawlers.

Unwanted catch estimates reported in Tables C and D were the values reported to ICES for stocks' assessment based on data collected at the observers sampling program on-board the demersal fish and crustacean trawlers in area 27.9.A. Using the procedure to raise unwanted catches (previously, discards) from haul to fleet level in the Portuguese trawl fisheries (Jardim and Fernandes, 2013), species with low frequency of occurrence or abundance in discards (i.e., a large number of zeros in the data set) cannot be reliably estimated at fleet level. The frequency of occurrence and abundance of most species in unwanted catches of Portuguese bottom trawl fleet was below 30%. Consequently, annual trawl unwanted catch volumes and length frequencies at fleet level are only estimated for some metiers, species and years. Landings by species for the metiers coded as OTB\_CRU\_>=55\_0\_0 and OTB\_DEF\_>=65\_0\_0 in Tables C and D were the result of aggregation of landings of more than one trawl metier reported in Table A, according to the table below. Unwanted catch estimates are reported for the same aggregated metiers, which are the groups covered by the sampling program.

Metiers from Table A - CATCH	Metiers in Tables C to E (with biological data)
OTB_CRU_55-59_0_0	OTB_CRU_>=55_0_0
OTB_CRU_>=70_0_0	
OTB_DEF_0_0_0	OTB_DEF_>=65_0_0
OTB_DEF_65-69_0_0	
OTB_DEF_>=70_0_0	

Age data (Tables C and E) were provided only for the species that have age information, which are horse mackerel (HOM), mackerel (MAC), sardine (PIL) and blue-whiting (WHB), in area 27.9.A. Table C contains age information only for WHB, because this is the only aged species present in unwanted catches.

Length data (Tables D and F) are provided for all species and métiers sampled in areas 27.1.B, 27.2.A, 27.2.B (on-board sampling) and 27.9.A (market sampling). Table D contains length data for hake and blue-whiting, species which frequencies of occurrence in unwanted catches is higher than 30% , as previously referred.

In each DOMAIN\_LANDINGS, TOTWGHTLANDG weight was converted in number (dividing by the MEAN\_WEIGHT\_LANDG) and then distributed by age and/or length, using the proportions of each age or length class in the total distribution. The same procedure was applied for the unwanted catches.

Refusal rates were recorded on a regular basis only in 2017.

### **Effort**

Logbook information is used to calculate effort (fishing days and sea days) by fishing area using SQL scripts. This is a powerful tool for that aim, however, in situations where the trip is not well finished in the logbook, the estimated effort is not correct.

For SSF, is assumed that one Sales Note corresponds to one trip, one sea day and one fishing day.

## **15.2 Data availability**

Portugal did not submit all data before the deadline. After the Métier Workshop (Copenhagen, January 2018), the conclusions about the concepts and best practices were taking into account and the “Metier – Algorithms” were revised. That change on the métier methodology had a significant impact on data extraction for FDI data call and all the SQL scripts had to be modified which took a long time.

Besides that, the final output for JRC data base submission depends on different institutions involved (including outermost regions). This process is more time-consuming once not all data handler have the same level of access to the data needed neither the same skills. In addition to these difficulties there is also the fact that the Portuguese fleet is extremely extensive and diverse operating in a spread number of FAO areas.

Once the data check tool became available near the holiday period, and due to overlap with other reporting obligations, it was not possible to correct inconsistencies in time. That is why Portugal needed to upload data during the meeting (a large part of the errors were related to incorrect combinations of EEZ and sub-region that was not detected when uploaded).

## **15.3 Coverage**

Portugal went through all the tableau pages and look at the quality checks in order to evaluate potential incorrect data and/or inconsistencies among the data provided.

The main problems are derived from:

- Different coding (NK/NA, MIS/NK) in different tables;
- Missing information for some years and tables from the outermost regions;
- Errors in determination the geographical rectangles.

The extracting data scripts are being review to correct incompatibilities between tables and other errors encountered.

### **Comparison with Eurostat data**

The data submitted to FDI data call are consistent with the Eurostat data despite “FDI-landings” for vessels with logbook are based catches and Eurostat landings takes into account firstly the sales notes and only in their absent the catches retained on board.

### **Publication of confidential data**

The new field introduced into tables A, G, H and I to flag confidential data was with the propose to reflect the MS approval in providing the access and handling of detailed data to EWG members and JRC IT team.

In 2018 data call the letter wasn’t explicit about the intention of disseminate data at a MS level or even at EU level, in such a disaggregated level as C-square. Having present the public dissemination of data, that decision has to be address to MS trough National Correspondent once the experts present on the FDI WG are independent and don't have the authority do decide by the MS. Nevertheless Portuguese experts have serious reserves about national data once the Portuguese fleet operates in almost FAO areas with a relative low number of vessels. Even when data is aggregated at EU level Portuguese vessels of long distance fleet can be identified.

Regarding the data protection law in force since may/2018 the experts have the opinion that MS should review the methodologies to assure the confidentiality of the sector operations that reflects the business intelligence of each operator/owner/skipper.

Considering this year data call and even though EWG report will only show aggregated EU data, it was asked JRC to perform all the geographical information removing the Portuguese entries with less than 3 vessels. It is considered that these two procedures will ensure confidentiality to Portuguese long distance fleet that at an EU level can be the only EU fleet operating in some FAO areas/c-square.

## **15.4 Problems encountered**

The large amount of data in a very disaggregation level plus the changes from year to year and a weak guidelines turns this data call into the most difficult, time consuming and with the lower rate of confidence in the match between the request and what is delivered. This is a big burden for MS and is not clear if all the information requested is needed.

### **Landings**

Concerning weight of landings, for data based on logbooks, it is not sure that the weight of discards is included in value reported in the catch. Some skippers sum the discards in the catches and others don’t.

### **Effort**

For effort calculation logbook information is used to determinate fishing and days at sea using SQL scripts. Logbook is a powerful data source for effort estimation, however, in situations where trips are not well finished in the logbook, the effort estimates are not correct since it is not possible to determine the end of each trip.

Number of fishing days are difficult to estimate for SSF once there are no logbooks for vessels < 10m LOA. A common approach is used to estimate the fishing days from the sales notes, assuming that 1 sale note corresponds to 1 fishing day. Albeit this common approach, in the Azores Autonomous Region a different pattern among fleet segments is observed as the number of fishing days per sale note are different.

### **Spatial Information**

Portugal has faced difficulties on EEZ indicator determination. Further specifications or reference tables could be provided in the next data call.

#### **Problems related to data submission**

The validation of “EEZ-indicator and Sub-region fields” wasn’t available on the upload checks since the beginning of the opening of the upload facilities. The introduction of this check was very useful for the MS that allowed to perform some corrections and retyping the SQL scripts in order to extract the correct combinations of codes. However, verification of this data combination was available too late and it was not possible to correct the data in time.

#### **15.5 Other comments if relevant**

Portugal used the upload facilities to do the files validations instead of the DV tool because this last one is more time consuming. In this way the number of attempts for data submission is widely spread on time once the facility was being used as a validation tool. In that way, it would be better if the DV tool run faster and do the same validations as the upload facility.

Since the data providers from the outermost regions are different from the mainland, it would be very useful if data check tool includes Geo Indicator on the filter.

Portuguese Experts consider that is very important some kind of workshop within the data providers, between the launch of the request and the submission deadline. This workshop doesn’t have to be face-to-face, Skype is enough. This could be a place to data providers to ask for clarifications, to change methodologies, best practices to extract data in order to provide the best and on time data to the EWG.

The data format should be rethought, since the constant conversion of excel files to csv increases the possibility of errors in units and in data with dots, and is more time consuming either.

### **16 SPAIN**

The Spanish Administration is now in a transition period from the traditional data call processing to a new computer application that is being designed to be the main tool to gather all the fisheries information coming from the national data collection programme. This tool will be able to storage and process scientific and commercial fisheries data with the objective to respond Data calls as the STECF FDI requested by JRC. This explains the discrepancies found during the check-up process developed during the meeting, which are expected to be solved as soon as possible.

The production of this type of DCs involves different bodies and labs, requiring the contribution of staff with different profiles: administrative, managers, statistics and scientists. It is important to underline that this task in a country with fleets operating in all areas, from Antarctic to North Sea and Pacific, including waters in Third Countries, makes the process more complicated and time consuming.

The change that this data call has suffered during the last two years didn’t help to progress, either in the internal process to organize the data nor providing them following the traditional procedure. It is very important to have a clear idea on what we need, and what is the objective we want to achieve with this data request. Also, it is noteworthy to underline that, any change in the design of the data call will impact in our work. For this reason, and to the extent possible, Spain has always requested to get to a DC with all the definition possible, so minor changes from one year to another won’t interfere in this procedure.



By reviewing the data, we have found a very important mistake in table A, regarding the landing figures. These are not correct, and it is important to note this, because this figure will be used for other variables in the rest of the tables. Spain wishes to modify and re-upload this as soon as possible, but if this won't be possible in the near future, it will be done as soon as possible.

However, this mistake doesn't seem to have happened for the Mediterranean area.

In some other points of this report, the most important errors or finding in the Spanish data will be explained in detail.

## 16.1 Methodology

This DC comprises the triannual period 2015-2017 and have been collected as required.

Regarding the estimation procedures, they have been applied to calculate the unwanted catches (field 21 in table A), which are derived from the at-sea sampling data. Therefore, only domains covered by the Spanish at-sea sampling program present "unwanted" catches. Therefore, we consider that any calculation coming from these data provided shouldn't constitute the basis for any specific official measure regarding landing obligation. During the meeting, it was a common thinking of the experts that merging different catch categories under the same "unwanted" catches compromise any quality analysis.

Currently the proposed methodology for calculation of effort hasn't been used, but it is included in the design of the IT application that Spain is going to launch next year, which will improve the process and will mean a much more efficient way to proportionate all DC. An alternative system was used, working with SQL programming, following the methodology recommended in Annex 14 of the DC. For vessels less than 10 meters, one (1) day at sea is assumed.

On the refusal rate (table B), its collection has been implemented from 2016 on, therefore no data prior to this year is available. The calculations have been obtained from at sea sampling.

The total value for landings was taken from the sales notes.

As for spatial data, only were provided for ICES areas.

## 16.2 Data availability

Data hasn't been provided by the deadline. Certain problems prevented it, mostly related with the fact that in Spain there are different bodies involved in the DC, as well as the intrinsic and huge variability of the fleet operating in all areas. The continuous changes in requirements for the last couple of years also had an impact on this.

## 16.3 Coverage

The revision carried out showed some mistakes or confusions that should be easy to fix, such as the problem encountered with spatial mapping for long distance fleet. The problem seems to derive from a misinterpretation of the instructions given in the DC.

Some other, as the rare variations of figures between one year to another in unwanted catches (there is a much higher figure for 2017 compared with the rest of the series) might be due to the fact that last year, a selection of species were processed to comply with the DC, and this year all the species were included. Same happens with Table D (unwanted catch at length).

For the landings-at-age, the observed decrease in 2017 might be because some pelagic stocks were not included (DC deadline was before than the ICES pelagic assessment WGs).

In landings vs Effort some fields with “null” seems to correspond to the Mediterranean Sea. They present catches but not effort; most of cases are “NK”. The information comes from sales notes. Further review with experts back home is needed.

Also relate to the effort calculations, Spatial effort vs Effort: Comparison between effective effort from table I and “TOTFISHDAYS” from table G, the mistake seems to be in the calculations used to retrieve “EFFECTIVE EFFORT”; instead of use “TOTFISHDAYS”, it has been used “TOTSEADAYS”. It is due to a misleading interpretation.

The extreme average prices computed using “TOTWGHTLANDG” and “TOTVALLANDG” from table A; most of these problems correspond to Echinoderm and Crustaceans from the Mediterranean Sea. The prices, although high, must be wrong, due to some mistake during the completion of sales notes. Also, in this kind of comparisons that shows mistakes or errors, might be due to the mismatch of FAO species code between the logbook (not updated) and the scientific tables (updated); e.g.: VMA (*Scomber colias*) which is still codified with the code MAS (*Scomber japonicus*) in logooks, misused in the past to identify Chub mackerel.

In the comparison among domain landings from Table E and from Table F, it seems that there is a huge number of species which size is available, but not ages. This is due to the fact that they are not requested for the respective stock assessment WGs (e.g. hake is currently being evaluated by GADGET and SS3 disaggregated by lengths, instead of ages as was required by the former XSA).

The experts present didn’t have enough time to review all DC sent and make a comparison.

With regard to the landing differences that are available at EUROSTAT, as stated in the introduction, the error in processing the transversal information is responsible for the difference. Regarding number of vessels, a first review seems to show that artisanal fleet have not been considered, since it doesn’t have the combination of fishing technique category and vessel length category.

Lastly, addressing the issue of confidentiality, special attention should be paid to those cases where it is not possible to guarantee the anonymity of vessels (e.g., those operating in distant waters).

#### 16.4 Problems encountered

In relation to data collection, the situation that Spain faces year after year in order to coordinate different bodies and laboratories to compile data from fisheries operating in all the oceans has been explained in the head of this document.

The variability of fields to fill in the DC from one year to another may prevent to install an automatic methodology, especially in a moment is going to be implemented an IT system.

Nevertheless, this situation should be perfectly reversible for the future. As soon as possible the data will be corrected and re uploaded.

Some problems with the interpretation drove to not have included spatial data for long distance fisheries.

#### 16.5 Other comments if relevant

No other comments.

## 17 Sweden

### 17.1 Methodology

Landings >MCRS were retrieved from logbooks for vessels  $\geq 10$ m LOA and from monthly coastal journals for vessels <10m LOA.

Unwanted catch was estimated from the Swedish on-board sampling programme conducted under the DCF. The estimation (raising) was carried out according to the national sampling schemes within the strata described by "Domain discards". If no estimate could be achieved from sampling, or a stratum was not sampled, no unwanted catch was provided. This means that if official BMS landings were present in logbooks but no sampling was carried out for the stratum, the BMS landings were not included in the submitted data and instead "NK" was provided. The reason for this was that the BMS landings reported in logbooks alone are considered a highly unreliable source of information of total unwanted catch. The total unwanted catch estimates achieved for each stratum ("Domain discards") were then partitioned to the much more disaggregated format in the STECF data call. The partitioning was done proportionally to the variable used for the raising (landings of target species in the fishery or fishing hours, depending on the fishery). Proportion of landings of the same species was not used for the partitioning of unwanted catch unless the species was a target species.

Age distributions for landings were estimated from market sampling data. Age distribution data for unwanted catch were collected from the Swedish on-board sampling programme, except for cod in the Baltic Sea where the age distribution estimate was retrieved by a combination of on-board sampling and market sampling of BMS landings. Length distributions for landings of cod and witch flounder were estimated from market sampling data. Length distribution data for other species provided were collected in the Swedish on-board sampling programme.

Effort was calculated using the fecR package.

### 17.2 Data availability

Data was provided by the data call deadline.

### 17.3 Coverage

Landings data was provided for all species 2015-2017.

Unwanted catch estimates were provided for all species caught in fisheries sampled under the Swedish on-board sampling programme 2015-2017.

Age distribution data for landings was provided for cod, witch flounder, flounder, herring and sprat. Age distribution data for unwanted catch was provided for cod, witch flounder, flounder and plaice.

Length distribution data was only provided for species for which length data had previously been requested by ICES in the yearly ICES fisheries data call (see General comments)

Effort was provided for all vessels in the Swedish fleet 2015-2017.

#### *General comments*

In 2015 the number of on-board sampling trips achieved in the Baltic Sea was not sufficient for estimation of unwanted catch due to very high refusals from the fishery (see "Problems encountered").

Length distribution data was only provided for species for which length data had previously been requested by ICES in the yearly ICES fisheries data call. Length distribution data can be provided for

all sampled species in the data submission 2019. However, in the Swedish on-board sampling programme many species are encountered rarely and/or in very small numbers. No length distribution data will be/has not been provided for species for which the sampled number of individuals is considered insufficient for estimation.

Some small landings in Table A have a corresponding value of zero for days at sea and fishing days in Table G (effort). This is a rounding issue; in those cases the vessel used more than one gear/metier/area in one day. The fishing day was then split between the different gears/areas. Since days at sea and fishing days had to be provided in whole days, sometimes they got rounded to zero.

#### **Comparison with Eurostat data.**

Differences between landings data provided to Eurostat and landings data provided to FDI are likely due to the fact that different data sources have been used. Landings provided to Eurostat are retrieved from landing declarations, while landings data provided to FDI are retrieved from logbooks. The reason for logbooks being used for the FDI data call is that the Swedish logbooks contains much more detailed information than the landing declarations. Since Sweden has an extended logbook, information on catches, gears, geographical information, etc. is reported by fishing operation in the logbooks, which allows for a data compilation with as few assumptions as possible. However, in some cases the landings between the data sources differ, especially for pelagic species where the species composition of the catch is estimated in the logbook before landing. Some of the differences are however due to different FAO species codes being used. This is likely the case when a species is missing completely in one of the compared sources (For example, anglerfish was submitted with the FAO code "ANF" (*Lophidae*) to Eurostat and "MON" (*Lophius piscatorius*) to FDI).

Differences between number of vessels provided to Eurostat and the FDI are explained by the fact that only active vessels are included in the data submitted to FDI.

#### *Publication of confidential data*

For the submission of FDI data in 2018 no data was considered confidential in the Swedish data set. It was however unclear how confidentiality should be applied and this might be revised in future data submissions.

### **17.4 Problems encountered**

#### **Problems related to data collection**

In 2015 the Swedish on-board sampling programme failed to collect sufficient unwanted catch data in the Baltic Sea. When the landing obligation was introduced in the Baltic, fishermen refused to take observers and no Swedish discard data could be collected. To support sampling of on-board data, Swedish authorities introduced a new system in late 2016 which made it mandatory for vessels to accept observers.

### **17.5 Other comments if relevant**

No other comments.

## 18 United Kingdom

### 18.1 Methodology

#### 18.1.1 FDF vessel methodology

There was no consideration in the data call for how to denote those vessels that participated in the Fully Documented Fisheries (FDF) scheme. Of the requested data (2015-2017) there were Scottish vessels participating in the FDF scheme in 2015 and 2016. The unwanted catch estimates for the FDF vessels are calculated separately from those vessels that would be in the same domain due to the difference in fishing behaviour. As such to provide these estimates a method needed to be applied to denote those records relating to FDF vessels. “\_FDF” was appended to the end of the metier tag and in the domain names “\_FDF” replaced the commercial category.

#### 18.1.2 Domain name methodology

##### **UK – Scotland**

The domain name definition provided in the data call did not allow for accurate representation of the domains used in the Scottish estimation process. The values entered for each field are therefore representative only.

*Sub-region* – Not all of the areas sampled by the Scottish sampling scheme are at a sub-region level, as such sub-region could not always be entered. The alternative method to merely provide the supra-region would be unrepresentative and provide little informative value. As such the North Sea sampling area was recorded as 27.4 within the domain definition. The sub-region definition did not cater for those areas that span more than one EEZ. It was important to ensure that the relevant EEZ was reflected in the domain definition, as such the EEZ was appended to the sub-region, e.g. 27.5.bEU.

*Gear type* – The domain definition requested the domain gear code to be entered. Given the sample domain often comprises multiple gears it was not clear how this should be entered. Rather than enter every potential gear covered by the domain a representative gear code was entered, e.g. OTB for bottom trawlers and OTM for mid-water trawlers.

*Target assemblage* – As not all vessels within a sample domain will necessarily target the same assemblage a target assemblage code had to be entered that was most representative of that domain. Bottom trawlers using meshes  $\geq 100\text{mm}$  were recorded as targeting DEF, bottom trawlers using meshes 70-99mm were recorded as targeting CRU and mid-water trawlers were recorded as targeting SPF.

*Vessel length* – As with the gear type, a single vessel length code could not be entered from the list of codes in appendix 2. As the sample domains cover all vessels greater than or equal to 10m ( $\geq 10$ ) this was entered rather than listing all vessel length categories that would cover the various vessel lengths.

*Commercial category* – As mentioned previously where the domain related to FDF vessels, FDF replaced the commercial category field.

#### 18.1.3 Unwanted catch methodology

**UK – Scotland** - For a number of unwanted catch estimates there are no corresponding landings, as such these are not represented in Table A, and in Tables C and D a zero value is entered for the total weight landed. Where there is an unwanted catch estimate, but no corresponding age data these records were still entered in Table C with NK provided for any of the age information fields.

**UK – England** - Unwanted catch was estimated from the UK- England on-board sampling programme conducted under the DCF. The estimation (raising) was carried out according with the strata described by “Domain discards”. If no estimate could be achieved from sampling, or a stratum was not sampled, no unwanted catch was provided. This means that if official BMS landings were present in logbooks but no sampling was carried out for the stratum, the BMS landings were not included in the submitted data and instead “NK” was provided. The reason for this was that the BMS landings reported in logbooks alone are considered a highly unreliable source of information of total unwanted catch. The total unwanted catch estimates achieved for each stratum (“Domain discards”) were then partitioned to the much more disaggregated format in the STECF data call. The partitioning was done proportionally to the landings.

For each trip, numbers-at-length were raised to the haul, based on an estimated proportion of the total catch volume sampled, then to the trip, based on the proportion of sampled hauls and fished hauls. The length based data was converted to biomass, using length-weight relationships for each species collected during various scientific trawl surveys (Cefas, unpubl. data). Trip-raised estimates were summed for sampled vessels in each stratum (i.e. Domain) and then raised to total fleet using a ratio between the reported total fleet landings of stock and reported landings of stock by the sampled vessels. When no landings are reported, effort (number of at sea in domain) was used to raise the unwanted data.

#### 18.1.4 Length and age distributions

For the length and age distributions each UK country provided biological data individually based on its national data collections programme.

##### **UK- England**

Age and length distributions for the unwanted catches were estimated based on the UK- England on-board sampling programme. Length data was collected for all fish species and commercial molluscs and crustacean species. For data submission, a minimum number of fish sampled by strata (Domain) is applied. Only domains with 20 or more fish measured were submitted. Age distributions for the unwanted catches were provided to the following species: cod, haddock, megrims, lemon sole, plaice, sole and whiting.

Age and length distributions for the landings were estimated based on the UK- England on-shore sampling programme. Length data was provided for all commercial fish species and commercial molluscs and crustacean species. For data submission, a minimum number of fish sampled by strata (Domain) is applied. Only domains with 20 or more fish measured were submitted. Age distributions for the landings were provided to the following species: brill, cod, haddock, herring, megrims, lemon sole, ling, pollack, plaice, seabass, sole, turbot and whiting.

##### **UK – Northern Ireland**

For cod, haddock and whiting length frequencies from Northern Ireland (AFBI) fleet observer trips in specified fleet métiers are raised to the trip level, summed across trips during each year or by quarter, then raised to the annual number of trips per year in the NI fleet in 7.a to give raised annual LFDs for discards. An age–length key from discards trips is then applied to give annual discards by age class and metier.

For Nephrops in functional unit 15 the discards samples contain the heads of Nephrops tailed at-sea. Using a length–weight relationship, the live weight of Nephrops that would have been landed as tails only is calculated from the carapace lengths of the discarded heads. Discard estimates of fish species is estimated by summing the discard weight, by species, for all samples in a quarter and expressed as

a ratio of the summed live weight of Nephrops in the discard samples (i.e. those represented as heads only in the samples). The reported live weight of Nephrops landed as tails only is then used to estimate the quantity of cod or haddock discarded using the cod or haddock:Nephrops ratio in the discard samples. The length frequency of cod in the discard samples is then raised to the fleet estimate. To provided international estimates this is raised to the by the ratio of Northern Irish Nephrops landings to international Nephrops landings. In years prior to the self-sampling scheme the ratio of numbers-at-age of discarded cod and haddock: Nephrops landings in the unsampled year is used to provide an estimate of discards. In years where sampling of other fisheries has occurred these are added to the international discard estimates of the Nephrops fleet.

#### 18.1.5 Effort calculation methodology

The effort measures for all administrations comprising the UK were calculated using the fecR package. The checks contained within the fecR package are very restrictive and as such a number of voyages were rejected for each administration. The fecR package also requires a valid statistical rectangle and as such is prohibitive for use with OFR voyages. This required a dummy rectangle to be entered for these entries. These OFR records also had to be adapted to meet the requirements of the data call. For these OFR records we do not have sub-region level and as this was a requirement of the data call the sub-region was changed to NK, as was the EEZ indicator.

#### 18.1.6 Refusal rate methodology

The refusal rate was not provided by any of the UK administrations as it is felt that this measure does not provide any informative value to this data call.

### 18.2 Data availability

All tables were submitted on time in the first instance. Tables have been updated between the statutory submission date and the date of the meeting where errors were identified (e.g. transposition of latitude and longitude in Table I.

### 18.3 Coverage

The UK gathers landings and effort data on two distinct databases, one Scottish and one for the rest of the UK (rUK). The data submitted here have their origins in both of these databases. The table below summarises the number of records uploaded for each data tables by the UK.

Data totals for the UK by year

<b>Table/Variable</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
TABLE_A_CATCH/totvalllang	58327	62928	56288
TABLE_A_CATCH/ totwghtlandg	58327	62928	56288
TABLE_A_CATCH/unwanted_catch	15711	17321	14808
TABLE_B_REFUSAL_RATE	Not submitted	Not submitted	Not submitted
TABLE_C_UNWANTED_CATCH_AT_AGE/no_samples	1534	1622	1587
TABLE_C_UNWANTED_CATCH_AT_AGE/totwghtlandg	1534	1622	1587
TABLE_C_UNWANTED_CATCH_AT_AGE/unwanted_catch_landg	1534	1622	1587
TABLE_D_UNWANTED_CATCH_AT_LENGTH/no_samples	16161	18085	16739
TABLE_D_UNWANTED_CATCH_AT_LENGTH/ totwghtlandg	16161	18085	16739

TABLE_D_UNWANTED_CATCH_AT_LENGTH/ unwanted_catch_landg	16161	18085	16739
TABLE_E_LANDINGS_AT_AGE/no_samples	2686	2688	2573
TABLE_E_LANDINGS_AT_AGE/ totwghtlandg	3470	3703	3527
TABLE_F_LANDINGS_AT_LENGTH/no_samples	17780	18939	18178
TABLE_F_LANDINGS_AT_LENGTH/ totwghtlandg	17780	18939	18178
TABLE_G Effort/totfishdays	5933	6089	5843
TABLE_G Effort/totgtdaysatsea	5883	6057	5673
TABLE_G Effort/totgtfishdays	5883	6057	5673
TABLE_G Effort/totkwfishdays	5883	6057	5673
TABLE_G Effort/totkwdaysatsea	5883	6057	5673
TABLE_G Effort/totseadays	5933	6089	5843
TABLE_G Effort/totves	5933	6089	5843
TABLE_H_SPATIAL_LANDINGS/totvallandg	137005	145549	132774
TABLE_H_SPATIAL_LANDINGS/totwghtlandg	137005	145549	132774
TABLE_I_SPATIAL_EFFORT/effective_effort	17480	18342	17299
TABLE_J_CAPACITY/avgage	53	52	56
TABLE_J_CAPACITY/avloa	53	52	56
TABLE_J_CAPACITY/maxseadays	53	52	56
TABLE_J_CAPACITY/totgt	53	52	56
TABLE_J_CAPACITY/totkw	53	52	56
TABLE_J_CAPACITY/tottrips	53	52	56
TABLE_J_CAPACITY/totves	53	52	56

### General comments

Both UK databases were upgraded in mid-2017. This has created a number of issues affecting this data call. Day trips by Scottish u10 m vessels are no longer recorded in the same way as on the old system. This means that in 2017 the calculation of effort for these trips returning 0 days at sea. This is because the departure and return dates and times are identical, previously they were from DD/MM/YYYY 00:00 to DD/MM/YYYY 23:59 now they are DD/MM/YYYY 00:00 to DD/MM/YYYY 00:00, which the FecR transversal data package in R calculates as being 0 days effort. This issue will be rectified for the next meeting. This issue accounts for 11,000 days at sea of the apparent decrease in days at sea for Scottish vessels in 2017 (~156,000 days at sea) when compared with 2015 (~257,000 days at sea) and 2016 (~237,000 days at sea). There still remains a significant apparent decrease in effort for Scottish vessels in 2017 compared to 2015/16, which is concentrated in the u10 m segment. The Scottish administration is currently investigating whether this decrease is real or due to an undiagnosed issue in the database. Additionally, conflicting manual amendments to metier codes during the upload process in the catch tables vs. the effort tables resulted in 587



individual trips that were recorded in either the catch (369) or effort tables (218) but not both. The impact of this on the data call overall is minor and will be rectified before the next meeting. The manual amendments made were necessitated by conflicting business rules between JRC tables in which one table would accept the métier as written and the other wouldn't. We hope next year there will be more consistency in rules for tables with equivalent tables.

### **Comparison with Eurostat data**

Overall the difference between Eurostat and FDI in 2015 and 2016 was relatively small, with landed live weight being -0.3% less on Eurostat than FDI in 2015 and 2% higher on Eurostat than FDI in 2016. Examining the squared differences (i.e. differences in terms of magnitude only, rather than direction), by species, revealed that in each both years it was differences in the reported quantity of landings of high volume pelagic species (specifically Mackerel and Herring) that explain at least 78% of the observed difference. It is likely that such differences came about owing to ongoing compliance and assurance work to update the database where data errors are detected on logbooks and/or sales notes. A relative minor change to a large pelagic landing would have the potential to account for the magnitude of the differences observed. Given the dynamic and live nature of our fisheries database exact matches between different snapshots in time are not to be expected. Additionally, the reporting of anglerfishes and horse mackerel are not consistent between Eurostat and FDI, this creates minor differences at the overall level and significant differences for the species concerned. The total number of vessels differs by around 200 vessels per year with respect to Eurostat. This is because Eurostat considers a snapshot date and FDI considers the whole calendar year.

### **Publication of confidential data**

The UK has not flagged any data in this call as confidential. We continue to monitor the content of data calls and will ensure any confidential data is flagged if requested in future data calls.

## **18.4 Problems encountered**

The way the data call is set up there is no viable method for entering records where no vessel was used, negating transmission of any data relating to hand-picking or diving. The main issue relates to the need for a fishing tech to be submitted, however these landings are not reported in the economic data call and so have no associated fishing tech. A method was discussed to get these data entered by using proxy values, but as with the entering of OFR sub-region information you lose the value of the data if you apply quick fixes. If there is a desire to receive as much data as possible these issues need to be properly addressed.

### **Supra-Region/ Sub-region**

Some voyages have only region information. These relate to OFR regions. For those landings/effort relating to OFR where sub-region information is not present a method needed to be applied to enter these records. It would be possible to do an analysis of VMS for these voyages, however the task would further increase the burden on MS in responding to this data call while providing a likely inaccurate representation of which sub-region the landings/effort relate to. These voyages often span a number of sub-regions so a simple method cannot be applied that will yield accurate results. As no sub-region was recorded it was requested that these records be entered as sub-region NK. What value does this information now provide? For OFR region level information should be accepted. These voyages also have no rectangle information so are excluded from the spatial tables. Again a VMS method could be applied, however this would be inaccurate and time consuming.

### **Gear type**

There is no consistent method for recording gears where mesh size/ring size is not usually reported. For example for gears such as DRB and FPO there is sometimes a mesh/ring size measurement reported, however these values are not accurately or consistently reported. How does this differ from gears such as LNB, FPN and FYK? These three gears were not allowed to be recorded as mesh size NA, but rather had to be entered as NK. For consistency in application these gears should have been accepted as having mesh size NA.

What informative value does the target assemblage field have over the presence of target assemblage in the metier? The method used to fill the target assemblage field was to extract the relevant part of the metier tag. This is a duplication of effort for no gain. The metier field is largely already covered by the gear type, mesh range and target assemblage fields.

To enter the records corresponding to FDF vessels a list of the metiers with the FDF tag added had to be sent to the JRC, such that they could be added to the list of accepted metiers. FDF vessels should've been considered as they previously were. A more efficient method of allowing metiers with the FDF tag appended should have been implemented rather than each affected MS emailing a list of metiers.

The way the submission of files is set up creates unnecessary overload of work and leads to greater chance of errors occurring. As all the files for a particular table have to have the same name this leads to the creation of large numbers of folders to store these individual files. Checking back as to what was submitted is also a challenge as again all the files have the same name. Tables G, H and I had a combined 54 folders created to cover the various administrations of the UK for the 3 requested years. The UK should be able to record the specific administration code in the file name, e.g. SCO\_TABLE\_G\_EFFORT, ENG\_TABLE\_G\_EFFORT. The separate administration codes are allowed within the files so should also be allowed in the file name when uploading. It makes no sense not to allow it. I would even suggest that the year is allowed in the file name also.

Some of the accepted coding standards were changed throughout the upload process. How are we supposed to respond to a data call as accurately as possible when there are shifting goalposts? At the very least the changes should have been conveyed to the MS.

As with the test data call there is a duplication of effort that not only increases the working burden, but also leads to more errors. The domain field was introduced to represent the sampling domain and link the sample data to the catch data. Why then are we requested to enter the unwanted catch in Table A and the total weight landed in Tables C and D? The domain name link can provide this. To allocate the unwanted catch to the highly disaggregated data in Table A a method has to be applied; each MS will do this differently. With the domain name link the JRC can apply the same method for all MS should they wish. However most importantly, the data are sampled at a particular level of aggregation and any attempt to allocate to the disaggregated catch table will be erroneous.

Whilst I understand the desire to have a domain definition to represent an MS sampling domain, there needed to be greater guidance on what should be entered for each field. It was unclear whether every gear code, target assemblage or vessel length category should be included within the tag or whether a representative one should be used. The inclusion of the selective device and selective device mesh as fields in the domain makes no sense as what are you supposed to do if the domain contains both vessels with and without a selective device?

The output error files when submitting data need to be reformatted, the way they are currently is largely unreadable.

#### 18.5 Other comments if relevant

No other comments.

**ANNEX 2 Working Document with suggested revisions to data call descriptions for 2019.**

## ANNEX 2 Working Document with suggested revisions to data call descriptions for 2019.

This working document details some suggested changes to the current data call. These changes are intended to clarify a number of issues and misunderstandings which became evident during the 2018 meeting. It would be beneficial if each table was accompanied with a concise title and description of the rational of the table and/or how it links to other tables.

### Table A

**Main issue:** The purpose of this table, in particular the unwanted catch, was misinterpreted by a number of MS. It is hoped that the below changes will clarify those issues. Possible additional guidance could include: how 0 landings should be dealt with; how to handle data where there is no corresponding fleet segment (i.e. hand fishing).

**NAME:** Catch Summary

**DESCRIPTION:** This table is a summary of scientific estimates of total catch, therefore it should only contain scientific estimates or scientific validated of “unwanted catches”. Please ensure that:

- 1) All entries are fully consistent with coding in the appendixes.
- 2) If no scientific estimates of unwanted catch are available then please mark as NK, and **NOT** zero
- 3) Ensure that **ALL** domains present in the biological samples table (Tables C,D,E and F) are present in Table A, therefore enabling a linkage between the two.
- 4) Landings below minimum conservation reference size should be included in the unwanted catch column, and **NOT** the landings column

	Column	Description
1	COUNTRY	
2	YEAR	
3	QUARTER	
4	VESSEL_LENGTH	
5	FISHING_TECH	
6	GEAR_TYPE	
7	MESH_SIZE_RANGE	
8	METIER	
9	DOMAIN_UC	Should be named unwanted catch and not discards to improve consistency
10	DOMAIN_LANDINGS	
11	SUPRA_REGION	
12	SUB_REGION	
13	EEZ_INDICATOR	
14	GEO_INDICATOR	
15	SPECON_TECH	
16	TARGET_ASSEMBLAGE	
17	DEEP	
18	SPECIES	
19	TOTWGHTLANDG	<b>Note:</b> should not include landings below MCRS (minimum conservation reference size).
20	TOTVALLANDG	
21	UNWANTED_CATCH	
22	CONFIDENTIAL	

**Table B**

**Main issues:** The description on the top of this table is very misleading. Originally this text was designed to explain why the Table B did not match that of the original test FDI-New datacall. This misleads the reader by introducing comments about age and length data.

The current structure of this table is not fit for purpose as it. Cannot be used to compare refusal rates between MS. Improvements to this table have been suggested below and are detailed in a revised appendix 12.

<b>NAME:</b> Refusal Rates		
<b>DESCRIPTION:</b> Refusal rates are one of the key quality indicators of assessing a probability based sampling scheme. As defined by SGPIDS 2 (ICES 2012) the refusal rate in the fisheries context is the proportion of skippers who, having been successfully contacted ultimately failed to allow the observer to go on-board to obtain the sample.		
1) All entries are fully consistent with coding in the appendixes. 2) MS should only submit data to this table if their sampling design can be considered a probability based vessel selection design (see SGPIDS 3, ICES 2013)		
	Column	Description
1	COUNTRY	
2	YEAR	
3	SAMPLE_FRAME	
4	RAW INDUSTRY REFUSAL RATE	The refusal rate is the proportion of vessel skippers who, having been successfully contacted, ultimately failed to allow the observer to go on board to obtain the sample, calculations demonstrated in SGPIDS 2012 (ICES 2012).
5	COVERAGE RATE	Percentage of the population which was sampled
6	NON-RESPONSE RATE	The non-response rate is defined as the proportion of all attempted contacts that ultimately failed to provide a sample, for whatever reason, calculations demonstrated in SGPIDS 2012 (ICES 2012).
7	TOTAL NUMBER OF VESSELS IN THE FLEET	
8	NUMBER OF TRIPS SAMPLED ON-BOARD VESSELS	
9	NUMBER OF UNIQUE VESSELS SAMPLED	
10	TOTAL NUMBER OF TRIPS CONDUCTED BY THE FLEET	
11	TOTAL NUMBER OF VESSELS CONTACTED IN THE YEAR	
12	RESPONSE – NOT AVAILABLE	Outcome of attempted vessel contact, one of five contact types, detailed in SGPIDS 2013
13	RESPONSE – NO CONTACT DETAILS	Outcome of attempted vessel contact, one of five contact types, detailed in SGPIDS 2013
14	RESPONSE – NO ANSWER	Outcome of attempted vessel contact, one of five contact types, detailed in SGPIDS 2013
15	RESPONSE – OBSERVER DECLINED	Outcome of attempted vessel contact, one of five contact types, detailed in SGPIDS 2013
16	RESPONSE – INDUSTRY DECLINED	Outcome of attempted vessel contact, one of five contact types, detailed in SGPIDS 2013
17	SUCCESSFUL SAMPLE	1 – refusal rate, illustrated in SGPIDS 2013
18	TOTAL NUMBER OF SELECTIONS	total number of sequential selections from the randomised process, illustrated in SGPIDS 2013

### Table C

**Main issues:** The domain names did not match that of Table A, as a result no link could be made between table C and Table A. Therefore, the data could not be raised correctly. MS need clarification on how to handle unwanted catch estimates that have no corresponding age data, should they be represent in this table?

**NAME:** Unwanted Catch Age Data

**DESCRIPTION:** Age samples collected from observer sampling programmes. Please note:

- 3) All entries are fully consistent with coding in the appendixes.
- 4) Ensure that **ALL** domains present in this table are present in Table A, therefore enabling a linkage between the two.
- 5) Landings below minimum conservation reference size should be included in the unwanted catch column, and **NOT** table E.

	Column	Description
1	COUNTRY	
2	YEAR	
3	DOMAIN_UC	Should be named unwanted catch not discards for consistency
4	SPECIES	
5	TOTWGHTLANDG	
6	UNWANTED_CATCH	
7	NO_SAMPLES_UC	
8	NO_AGE_MEASUREMENTS_UC	
9	AGE_MEASUREMENTS_PROP	
10	MIN_AGE	
11	MAX_AGE	
12	AGE	
13	NO_AGE_UC	
14	MEAN_WEIGHT_UC	
15	MEAN_LENGTH_UC	

### Table D

**Main issues:** The domain names did not match that of Table A, as a result no link could be made between table D and Table A. Therefore, the data could not be raised correctly.

**NAME:** Unwanted Catch Length Data

**DESCRIPTION:** Length samples collected from observer sampling programmes. Please note:

- 1) All entries are fully consistent with coding in the appendixes.
- 2) Ensure that **ALL** domains present in this table are present in Table A, therefore enabling a linkage between the two.
- 3) Landings below minimum conservation reference size should be included in the unwanted catch column, and **NOT** table F.

	Column	Description
1	COUNTRY	
2	YEAR	
3	DOMAIN_UC	Should be named unwanted catch not discards for consistency
4	SPECIES	
5	TOTWGHTLANDG	
6	UNWANTED_CATCH	
7	NO_SAMPLES_UC	
8	NO_LENGTH_MEASUREMENTS_UC	
9	LENGTH_UNIT	
10	MIN_LENGTH	
11	MAX_LENGTH	
12	LENGTH	
13	NO_LENGTH_UC	

### Table E

**Main issues:** The domain names did not match that of table A, as a result no link could be made between table E and Table A. Therefore, the data could not be raised correctly.



**NAME:** Landings Age Data

**DESCRIPTION:** Age samples collected from observer sampling programmes. Please note:

- 6) All entries are fully consistent with coding in the appendixes.
- 7) Ensure that **ALL** domains present in this table are present in Table A, therefore enabling a linkage between the two.
- 8) Landings below minimum conservation reference size should be included in the unwanted catch column, and **NOT** table E.

	Column	Description
1	COUNTRY	
2	YEAR	
3	DOMAIN_LANDINGS	
4	SPECIES	
5	TOTWGHTLANDG	
6	NO_SAMPLES_LANDG	
7	NO_AGE_MEASUREMENTS_LANDG	
8	AGE_MEASUREMENTS_PROP	
9	MIN_AGE	
10	MAX_AGE	
11	AGE	
12	NO_AGE_LANDG	
13	MEAN_WEIGHT_LANDG	
14	MEAN_LENGTH_LANDG	

## Table F

**Main issues:** The domain names did not match that of table A, as a result no link could be made between table F and Table A. Therefore, the data could not be raised correctly.

**NAME:** Landings Length Data

**DESCRIPTION:** Age samples collected from observer sampling programmes. Please note:

- 4) All entries are fully consistent with coding in the appendixes.
- 5) Ensure that **ALL** domains present in this table are present in Table A, therefore enabling a linkage between the two.
- 6) Landings below minimum conservation reference size should be included in the unwanted catch column, and **NOT** table F.

	Column	Description
1	COUNTRY	
2	YEAR	
3	DOMAIN_LANDINGS	
4	SPECIES	
5	TOTWGHTLANDG	
7	NO_SAMPLES_LANDG	
8	NO_LENGTH_MEASUREMENTS_LANDG	
9	LENGTH_UNIT	
10	MIN_LENGTH	
11	MAX_LENGTH	
12	LENGTH	
13	NO_LENGTH_LANDG	

## Table G

**Main issues:** MS have suggested that OFR regions should be entered at a region level rather than sub region, otherwise there is no value to entering them under NK. Could we not simplify the table by removing supra region and the database extracting the supra region from the sub region entry?

**NAME:** Effort Summary

**DESCRIPTION:** This table is a summary of all effort by a MS. Therefore, effort for metiers with and without biological samples should be supplied

- 1) All entries are fully consistent with coding in the appendixes.

	Column	Description
1	COUNTRY	
2	YEAR	
3	QUARTER	
4	VESSEL_LENGTH	
5	FISHING_TECH	
6	GEAR_TYPE	
7	MESH_SIZE_RANGE	
8	METIER	
11	SUPRA_REGION	
12	SUB_REGION	
13	EEZ_INDICATOR	
14	GEO_INDICATOR	
15	SPECON_TECH	
16	TARGET_ASSEMBLAGE	
17	DEEP	
18	TOTSEADAYS	
19	TOTKWDAYSATSEA	
20	TOTGTDAYSATSEA	
21	TOTFISHDAYS	
22	HRSEA	
23	KWHRSEA	
24	GTHRSEA	
25	TOTVES	
26	CONFIDENTIAL	

**Table H**

**Main issues:** MS have noted that consideration needs to be taken as to what to do with OFR region voyages. Not all MS have the geo information to include the data in this table therefore leading to inconsistency.

**NAME:** Landings by rectangle

**DESCRIPTION:** Landings by rectangle in tonnes. Data to be provided for all landings, for metiers, both with and without biological samples should. Please note:

- 1) All entries are fully consistent with coding in the appendixes.
- 2) Data must be supplied using a latitude and longitude, of the **CENTROID OF THE RECTANGLE**.
- 3) Subsequent presentation of data will use the c-squares schema 90.5 by 0.5 degrees)(appendix 13)
- 4) If it is not possible to submit data at this required fine scale, then do **NOT** submit data to this table.

	Column	Description
1	COUNTRY	
2	YEAR	
3	QUARTER	
4	VESSEL_LENGTH	
5	FISHING_TECH	
6	GEAR_TYPE	
7	MESH_SIZE_RANGE	
8	METIER	
9	SUPRA_REGION	
10	SUB_REGION	
11	EEZ_INDICATOR	
12	GEO_INDICATOR	
13	SPECON_TECH	
14	TARGET_ASSEMBLAGE	
15	DEEP	
16	RECTANGLE_TYPE	
17	RECTANGLE_LAT	NB this should be the centroid of the rectangle
18	RECTANGLE_LON	NB this should be the centroid of the rectangle
19	SPECIES	
20	TOTWGHTLANDG	
21	TOTVALLANDG	
22	CONFIDENTIAL	

## Table I

**Main issues:** It has been suggested that EFFECTIVE\_EFFORT be replaced with TOTFISHDAYS to provide consistency between tables

**NAME:** Effort by rectangle

**DESCRIPTION:** Effort by rectangle in units of fishing days. Data to be provided for all effort, for metiers, both with and without biological samples should. Please note:

- 1) All entries are fully consistent with coding in the appendixes.
- 2) Data must be supplied using a latitude and longitude.
- 3) Subsequent presentation of data will use the c-squares schema 90.5 by 0.5 degrees)(appendix 13)
- 4) If it is not possible to submit data at this required fine scale, then do **NOT** submit data to this table.

	Column	Description
1	COUNTRY	
2	YEAR	
3	QUARTER	
4	VESSEL_LENGTH	
5	FISHING_TECH	
6	GEAR_TYPE	
7	MESH_SIZE_RANGE	
8	METIER	
9	SUPRA_REGION	
10	SUB_REGION	
11	EEZ_INDICATOR	
12	GEO_INDICATOR	
13	SPECON_TECH	
14	TARGET_ASSEMBLAGE	
15	DEEP	
16	RECTANGLE_TYPE	
17	RECTANGLE_LAT	
18	RECTANGLE_LON	
19	EFFECTIVE_EFFORT	Rename TOTFISHDAYS for consistency?
20	CONFIDENTIAL	

## Table J

**Main issues:** This table requires a detailed description. The main issue MS had with this table is that in its current structure data is supplied at a country level, however in some cases such as the UK where there are separate administrations it is not possible to reconcile the table with other data calls.

**NAME:** Capacity and fleet segment effort

**DESCRIPTION:** ????

Please note:

- 1) All entries are fully consistent with coding in the appendixes.

	Column	Description
1	COUNTRY	
2	YEAR	
3	VESSEL_LENGTH	
4	FISHING_TECH	
5	SUPRA_REGION	
6	GEO_INDICATOR	
7	TOTTRIPS	
8	TOTKW	
9	TOTGT	
10	TOTVES	
11	AVGAGE	
12	AVGLOA	
13	MAXSEDAYS	

## Appendix 12

### Main issues:

This appendix is currently not fit for purpose as it is ambiguous and does not follow the recommendations of the Study Group on Practical Implementation of Discard Sampling Plans (SGPIDS) (ICES 2012, 2013).

Refusal rates are one of the key quality indicators of assessing a probability based sampling scheme. As defined by SGPIDS 2 (ICES 2012a) the refusal rate in the fisheries context is the proportion of skippers who, having been successfully contacted ultimately failed to allow the observer to go on-board to obtain the sample. The refusal rate is calculated as the number of industry refusals divided by the number of sequential sections or approaches *where contact was successfully made*. This refusal rate provides an indication of the industry reaction to the observer programme and is a useful measure of their cooperation. The higher the refusal rate the more potential of bias. To ensure refusal rates are comparable across fleets/MS/years the fundamental basics vessel selection must be identified. Refusal rates cannot be calculated without a probability based vessel selection system, without which none of the assumptions for the estimates hold, and variance or bias cannot be calculated. Therefore, in the basic description of table B there should be a description of these requirements. Also, MS must read the SGPIDS reports (ICES 2012, 2013) and familiarise themselves with the data structure being requested table B, so that they can determine if their sampling programme is fit to answer this aspect of the datacall.

In order to calculate credible and comparable refusal rates sampling programs the structure of table B should follow the recommendations and design outlined in SGPIDS (ICES 2013), and appendix 12 should be altered to incorporate the detail of these reports so that member states can better answer this datacall. SGPIDS (ICES 2013) outlined a number of key variables, which should be reported alongside the refusal rates. These variables are described as quality indicators and are essential when determining bias:

- 1) Total number of vessels in the fleet
- 2) Number of trips sampled on-board vessels
- 3) Number of unique vessels sampled
- 4) Total number of trips conducted by the fleet
- 5) Total number of vessels contacted in the year
- 6) Response – Not available
- 7) Response – No contact details
- 8) Response – No answer
- 9) Response – Observer declined
- 10) Response – Industry declined
- 11) Successful sample

### References:

- ICES, 2012. Report of the Study Group on the Practical Implementation of Discard sampling plans (SGPIDS 2). ICES 2012/ACOM:50
- ICES, 2013. Report of the Study Group on the Practical Implementation of Discard sampling plans (SGPIDS 3). ICES 2013/ACOM:56

**ANNEX 3 Comparison between Mediterranean data call and FDI (electronic)**

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